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ARTICLE I.—*Matter: Living and Dead.* By I. N. DANFORTH, M.D., Chicago.

The views of Prof. Beale, now so widely disseminated, are doubtless bearing excellent fruit, and producing excellent results; and yet I believe it is quite possible that some erroneous conclusions may be drawn from his published writings, if his language is always to be literally understood. In fact, if we always strictly construe his sentences, and take him at his word, we can scarcely help looking upon ourselves as more dead than alive; as fitter subjects for the charnel-house, than for the congregations of *living* men. The proposition that "nothing that lives is alive in every part"* is demonstrably true in the latitudinarian sense in which it was doubtless intended, but it is *as* demonstrably false, if subjected to the rigorous interpretation which we ordinarily bestow upon the language wherewith science speaks. The ultimate *living* particle, whether it be the whole, the half, or the thousandth part of a single cell, must, of very necessity, be *all* living; the ultimate particle of *dead* matter must, of precisely parallel

* "Life, Matter, and Mind," page 33.

necessity, be *all* dead. Thus we are driven, by the inexorable force of logic, supported by a multitudinous array of facts, to the same conclusion which Beale long ago announced; namely, that matter exists in two diametrically opposite conditions, *living* and *dead;* that every organism, whether the humble ameba, or man himself, consists of matter in these two states. Thus far, the most censorious critic can find no fault with Beale, provided always he be a believer in the existence of a vital power or principle. But, to my mind, the *tests* by which this author proposes to demonstrate the presence or absence of life, and the conclusions to which a rigid belief in the infallibility of these tests necessarily force me, are alike unwelcome and unsatisfactory, and it is my purpose, in the present article, to show *why* this is so.

Dr. Beale's method of distinguishing, as between living and dead matter, and the sweeping conclusions which he draws therefrom, may be briefly formulated as follows:

First: The cell, wherever found, consists essentially of two parts; germinal matter (otherwise called cell contents, nucleus, protoplasm, bioplasm, endoplast), and formed material (otherwise called cell wall, periplast, intercellular substance, or products of secretion). The former may be distinguished from the latter by its capability of being stained by an ammoniacal solution of carmine, whereas the latter remains unaffected by the presence of the staining material.

Secondly: Masses of germinal matter, which readily take the carmine stain, are found more or less abundant in all tissues; in cartilage, in muscle, in nerve tissue, and in fibrous tissue; and its proportion to the whole mass is determined by the age of the animal, or by the amount of pabulum accessible thereto.

Thirdly: Germinal matter alone possesses the power of multiplication, of absorbing and converting nutriment, of building up and repairing the tissues, and of spontaneous movement; *therefore*, only germinal matter is *living* matter.

Fourthly: All matter which may not be colored by carmine, which may not grow and multiply, and which does not possess the power of movement, is no longer *living* but *dead* matter.

Here then we have the tests by which we are to distinguish living from dead matter: namely, the presence or absence of the capability of being stained by carmine, and the presence or

absence of the power of multiplication and growth. Whether or not germinal or living matter may always and everywhere be stained by carmine, or whether or not it *never* stains by carmine, is a matter of utter indifference to us, only in so far as it enables us to distinguish between two kinds of matter. The mere fact that a certain part of the cell may be so colored does not of itself prove that it is either alive or dead. We may therefore dismiss this part of the subject with the remark that carmine furnishes us with a very convenient means of examining the different portions of the cell, and a probably reliable mode of distinguishing its living from its non-living elements; and with an equally convenient agent for the preparation of the solid tissues for microscopic study, although it is doubtless far less reliable as a test for the presence or absence of living matter in their substance.

Prof. Beale's second postulate demands a more extended consideration. No one who believes in vitality at all will dispute the statement that the power of self-multiplication and growth, together with the power of spontaneous movement, is satisfactory proof of the presence of life; no one will contend that the power of spontaneous movement or migration is absolutely necessary as a condition which must invariably accompany life. The real gist of the matter, then, lies in this question: is all matter necessarily dead which has not the power of increase or self-multiplication? To discuss this question at all satisfactorily it is necessary that we briefly recall the essential structure of the tissues. The solid structures, muscles, nerves, bones, ligaments, and cartilages—all the tissues of the body—are made up, in the adult, of minute masses of germinal or nuclear matter, and of larger masses of formed material or tissue proper. The former readily stains with carmine; is endowed with the power of converting pabulum into itself, and of converting itself into the latter; possesses, to a greater or less extent, the power of spontaneous movement, and sometimes of migration; and is, to all intents and purposes, indisputably *living* matter. The latter is essentially concerned in the execution of the duties for which it was created, or, as we usually and very correctly term it, *function;* it has no power to grow and increase itself of its own mere motion, even though it be abundantly supplied with the appropriate means of so doing; it does not readily become stained by carmine, and, when colored at all, the tint is pale and

imperfect, and is readily removed; it sometimes possesses the power of spontaneous movement of a certain kind, sometimes does not; it never migrates from point to point, but is absolutely helpless when detached from its proper location in the body. Is it therefore *dead?* According to Dr. Beale, the absence of these peculiar endowments is competent proof of death; and this is simply equivalent to saying that at least seven-eighths of a great proportion of the tissues, which go to make up the body of an adult, do not enter upon the performance of their proper functions until after they have ceased to live. Dr. Beale fortifies himself in his position by citing the changes which occur in the cells of ordinary mildew, and in those of epithelial structures; to which we reply that, in those particular instances, and in others of like nature, he is, without any doubt, correct; but the further conclusion that, *therefore, all* formed material is lifeless matter, is not warranted. For this sweeping conclusion condemns us inevitably to the very disagreeable necessity of walking by means of dead muscles, of employing our several senses by means of dead nerves, of breathing by means of dead lungs, and, in fact, of performing all our various functions through the agency of structures which have absolutely passed the boundary between life and death. The following quotations will show clearly enough that I am not misrepresenting this author, or extorting from his language a meaning which he did not intend. "I apply the term *germinal matter* only to that which *lives, changes, converts, germinates, etc. Formed material*, on the other hand, never possesses any of these properties. It *has lived*, but is now *lifeless;* it may *be* changed, but it cannot change itself."* Again he says, more pointedly still, "the terms *living* and *dead* have for me a meaning somewhat different from that commonly accepted. If my arguments are sound, the greater part of the body of an adult man or animal, at any moment, consists of matter to all intents and purposes as dead as it would be if the individual itself were deprived of life. The formed material of the living cell is dead. The only part of the living cell and the living organism which is alive, is the germinal matter. Nothing can be regarded as alive or living but germinal matter in which vital changes alone take place."† Surely if all this be true,

* "How to Work with the Microscope," page 318.

† Op. cit., page 328.

the most case-hardened stoic may appropriately pray for delivery from "the body of this death."

For my own part, I am prepared to admit, and do fully believe, first, that the epithelial structures generally, the outer layer of mucous and serous membranes, the epidermic layer of the skin, the hair and nails, and the fluid portions (or "formed material") of all secretions, of exudations and pus, consist of matter which is chiefly or wholly lifeless; more than that, I believe that in every truly living tissue, a considerable proportion of dead matter may always be found, by virtue of that retrograde metamorphosis which is the direct and inevitable result of use and wear, which is constantly going on from infancy to dotage, and which necessitates the provision of an extensive secretory apparatus for its immediate removal. Secondly, proceeding directly to the opposite extreme, we find matter (the so-called "germinal matter" or "bioplasm,") which is, in the highest sense, *living;* it inherently possesses the powers and properties already so frequently alluded to, namely, of growth, multiplication, and spontaneous movement. It is, without doubt, the ultimate repository of vital power—the absolute magazine of life. But between these two extremes; between matter absolutely dead on the one hand, and matter absolutely living, from Beale's standpoint, on the other hand, we find structures which belong neither to the one nor the other; structures which, deprived of some of the properties pertaining to the one, have not yet acquired some of the properties pertaining to the other; structures which, *wanting* the vital power necessary for *reproduction* and *growth*, *retain* so much of vital power as shall suffice for the performance of function; structures which, in passing over the boundary which separates germinal or growing matter from formed or "function-performing" material, carry with them just so much residual vital force as shall enable them efficiently and perfectly to perform their several functions, and maintain their own integrity while thus engaged.

Of this middle class, we may regard muscular tissue as the type, and I select it, because it is the most common, not because it is the only, type. It would be difficult for any man to convince himself, by any course of reasoning or experiment, that his muscles are composed, to the extent of forty-nine parts out of every fifty, of *dead* matter; and yet this is precisely what

Dr. Beale tells us. Lest the bare statement may not be deemed sufficient for those who have not access to his works, I quote his own words: "The contractile material of muscle may be shown to be continuous with the germinal matter, and oftentimes a thin filament of the transversely striated tissue may be detached with the oval mass of germinal matter still connected with it, showing that, as in tendon, the germinal matter passes uninterruptedly into the formed material. This contractile tissue is not, like the germinal matter which produced it, in a *living* state."*

Again, Prof. Beale divides the various movements which occur in living beings into two classes, as follows:

"I. Primary or Vital movements: affecting matter in the *living* state only, and occurring in every direction, as seen in the ameba, white blood corpuscle, and in germinal or living matter generally.

"II. Secondary movements, the *consequence* of vital movements, or of other phenomena, affecting matter which is *not* in a *living* state";† and in this latter class is placed ciliary movements, (as of ciliated epithelium,) muscular movements, (which he elsewhere calls a "physical" phenomenon,) molecular movements, and "movements of solid particles suspended in fluid in cells, caused by currents in the fluid." Quotations of similar import might be multiplied to an almost indefinite extent, from Prof. Beale's works, but these are sufficient for my present purpose. They show, conclusively enough, what, in the author's view, constitutes *death*, or dead matter; and, as a necessary corollary, that the various tissues only acquire their several *functional* powers after they have ceased to live. But, on page 311 of Prof. Beale's work on the Microscope, he gives a more formal statement of his views of the powers and properties of living matter, as follows:

1. The power of altering and appropriating certain soluble matters, and communicating to them properties or powers of the same nature as those which the living matter itself possesses.

2. The power of moving in all directions—the passage of one part of a living mass to another part, so that one portion may advance *itself* in front of another portion, or encircle another.

3. The power of causing the elements of matter to take up

* "Life, Matter and Mind," page 54.

† "How to Work with the Microscope," page 169.

definite relations towards one another, so that definite compounds, often exhibiting definite structures, may result, when the matter ceases to live.

4. The power of infinite increase.

Here, again, it will be observed that Prof. Beale carefully excludes several tissues upon which the various functions of the body fall, from the category of structures endowed with life.

If this doctrine be true, it must be regarded as an established fact, not only that we "die daily," but that we are constantly more dead than alive; that an exceedingly small proportion of the matter of which our several bodies is composed must necessarily be endowed with vital force sufficient to keep the other exceedingly large proportion in running order; in other words, that nature, reversing her ordinary laws, rules in this case by minorities. To what, then, is muscular contraction due? "To a 'disturbance' (electrical or otherwise) in the neighborhood of a contractile tissue," answers Dr. Beale. Why import the foreign element of "electrical disturbance," when the native element of vital force will answer, not only just as well, but a great deal better? Does nature ordinarily carry on her work by means of "disturbances, electrical or otherwise"? If the muscles which guide the pen with which these words are written are dead already, what change will they undergo at the moment when life shall altogether cease? He who accepts the theories of Beale must needs reply, "absolutely *no* change, except the death of their germinal matter." Then, surely, the same "disturbance" ought to produce the same result.

A careful consideration of this subject, will, I think, convince any one, save Dr. Beale himself, that the teachings of this most accomplished of microscopists are, on the point here discussed, essentially erroneous. No tissue can appropriately be called lifeless, while it is yet capable of performing its specific functions in that "living temple" whereof it forms a part. Dead as to the power of the conversion of pabulum; dead as to the power of reproduction; dead as to the power of traversing the field of the microscope by spontaneous movement of its component particles or of its entire mass, it indeed may be; but dead, in the ordinary sense of that fearful word, and in the sense in which it is constantly employed by Prof. Beale, it assuredly is *not*. Whether the life

which pervades and animates the tissues be called a "functional" life, or by some other name, it matters not; whether the powers they manifest be attributed to an "electrical disturbance," or to some other cause equally far-fetched and equally absurd, it matters not; whether theorists continue cudgeling their brains to find explanation for that which needs no explanation, it matters not; but one thing is certain—that the great mass of scientific and thinking men will continue to believe that *all* the tissues of their bodies are under the constant guidance of that old-fashioned but unerring vital force which has already withstood ruder attacks than that of the ingenious writer and laborious investigator whose doctrines are here considered, and to whom we all owe so much.

ARTICLE II.—*Report of Vivisections, Etc.* Performed by Prof. J. W. FREER, M.D., before the Alumni of Rush Medical College, Chicago. By F. L. WADSWORTH, M.D., Chicago.

At the close of the formal exercises of the Alumni meeting of Rush Medical College, Feb. 1st, 1871, the audience repaired to the upper lecture room of the college building, to witness an exposition of scientific vivisection, by Prof. J. W. Freer, M.D., Prof. of Physiology and Microscopic Anatomy.

It being the custom of Prof. Freer to fully illustrate his course of lectures on Physiology by vivisections, thereby exposing the *living organs* to view, and affording opportunity to observe and demonstrate the functions of various organs, there are continually under observation several animals upon which operations have been performed.

On this occasion the first animal exhibited by Prof. Freer, was one upon which a biliary fistula had been produced. An incision had been made at the median line of the abdomen, extending from the ensiform cartilage to the umbilicus, some three or four inches, exposing the lower border of the liver, duodenum, etc. The common duct had been occluded by a ligature, cutting off the flow of bile to the duodenum, the fundus of the gall bladder had been opened, and one end of a silver tube secured therein by lig-

atures; the other end, passing through the incision in the abdomen, delivered the bile outside the animal's body. The incision had closed perfectly around the tube, by granulations, holding it securely in its place.

At the date of the operation, Dec. 20th, 1870, the weight of the animal was 15 lbs. 7 oz. avoirdupois, and he ate, daily, an average of 4043 grains of meat. He recovered from the effects of the operation in five days, after which he ate, daily, an average of 4550 grains of meat, while the increase in amount of water drank was fully one hundred per cent. The bile discharged more or less freely from the tube continually; the maximum amount collected during periods of observation being six fluid drams in twelve hours.

At the date of the exhibition—forty-two days after the operation—although the animal's daily rations of meat had been increased by 507 grains, his weight had diminished to 11 lbs. 14 oz.—a loss of 3 lbs. 9 oz., one-quarter of his original weight. These data coincide fully with those obtained by Louget, Bidder and Schmidt, Schwann, Bloudlot and others under similar circumstances.

Observations showed that during the period named, subsequent to the operation, the animal was exceedingly sensitive to cold; that depression by cold diminished the flow of bile; that artificial warmth increased the flow of bile perceptibly; that water taken after fasting, and when the bile was scanty, speedily augmented the amount discharged.

Prof. Freer remarked, that, from these observations, it appeared that bile was not a purely excrementitious substance, but that it played a very important part in the process of digestion. It produces with fats a most perfect emulsion, in which condition the fatty portions of food are absorbed, and brought under the influence of vital force. The absence of bile in the alimentary canal results in rapid emaciation of the adipose tissue, and a great decline in the heat-producing capacities of the body.

The next animal exhibited was a large dog, weighing some 40 or 50 lbs., on which an operation for gastric fistula had been performed. An incision about three inches long had been made at the median line of the abdomen, exposing the anterior surface of the stomach, near the inferior border. The serous surface of

this organ was then brought in contact with the abdominal wall and secured by sutures to the lips of the incision, after which the wall of the stomach was pierced by a bistoury, and an opening made about one inch in length, corresponding in direction with the incision in the abdominal pariety. The canula, an instrument 2¼ inches in diameter, including flange, and 1½ inches long, was then inserted into this opening, readily, owing to the elasticity of the stomach tissues, which, after insertion, tightly grasped the body of the instrument, preventing hemorrhage and leakage of the stomach fluids into the peritoneal cavity. The incision in the abdominal wall was then carefully closed around the canula, which completed the operation.*

The size of the canula, (1¼ inch diameter of body,) allowed free inspection of the mucous surface of the stomach, which on this occasion poured out gastric juice freely when gently stimulated by the touch of a glass rod. Prof. Freer showed, by experiment, that gastric juice added to milk immediately precipitated the casein.

Next a black and tan terrier, weighing about 25 lbs., was put upon the table and anæsthetized with chloroform. The right common carotid artery and jugular vein were exposed. Into the former a glass canula was inserted and secured by a ligature, and into the latter the detached nozzle of the transfusion syringe was similarly adjusted. The blood of the animal was then allowed to flow from the artery into a vessel where it was defebrinated by whipping, and kept at 100° Fahrenheit, by means of a water bath. The bleeding continued until no more blood would flow, even with the animal's hind quarters raised far above the table upon upon which the head rested. Examination showed that all sensation was suspended, no pulsation of the heart could be felt, and there was only an occasional gasping respiration. Practically, the animal was dead, and would have remained so but for

* This operation is far preferable to the one recommended by Dalton, (Dalton's Treatise on Human Physiology, p. 120), in which the stomach is freely incised and secured to the canula by ligatures, from the fact that in Dalton's operation there is necessarily sloughing of the stomach tissues included in the ligatures, and subsequent exhausting leakage from the stomach, while in this operation there is no sloughing at all nor any considerable leakage. The animal exhibited, did not lose a day's rations of meat, nor a pound of flesh, as the result of the operation.

TRANSFUSION,

which technically consists in passing the blood of one animal into the veins of another—or, as in this case, the returning of blood to the veins of an animal from which it had been drawn.

This is most readily accomplished by means of a syringe, having a closely-fitting plain joint between body and nozzle, rendering detachment easy—the nozzle to be supplied with a stop-cock to prevent the entrance of air into the veins while the syringe is being filled.

The nozzle having been adjusted in the jugular vein, as before described, the transfusion was commenced; about one ounce per minute being the rate of injection. At about the fifth ounce injected, the animal commenced to wink and move his eyes, as though observing those around him; then, as the operation proceeded, to move his limbs, wag his tail, and give attention when spoken to. Sixteen ounces of blood were returned to the animal in this manner; immediately after which he raised his head voluntarily and looked around, and, with very little assistance, supported himself upon his haunches.

Subsequently to this, air was injected into the animal's veins, for the purpose of demonstrating its results. The first and second syringefull (half-ounce syringe used) produced no perceptible effect. The third and fourth produced irregular action of heart, disturbance in respiration, general convulsive movements of body, which, however, subsided in a few minutes, and the vital functions seemed to proceed regularly, although the animal was exhausted by the experiment. Some five or six syringefulls were then injected rapidly, when the heart ceased to act, a few convulsive efforts to breathe were made, and death ensued.

REMARKS CONCERNING TRANSFUSION.

While the animal was being prepared for transfusion, as heretofore described, Prof. Freer referred briefly to the history of the operation about to be performed. He said: The first successful experiments in transfusion were performed by Dr. Lower, of Oxford University, England, about the middle of the seventeenth century. It consisted of connecting the carotid artery of one animal to the jugular vein of another by means of a tube; and

whilst blood was thus transfused, he also permitted it to flow from time to time from a tube inserted into the upper portion of the jugular vein of the animal upon which transfusion was practiced, that as plethora ensued it might be reduced. Dr. Lower proposed to experiment to ascertain the effect of changing the blood of the old and young, the sick and healthy, and of the cold and warm blooded animals, expecting that this exchange would alter the nature of the animals experimented upon.

Transfusion was first performed upon the human subject in 1667, by two Frenchmen, Dennis and Emeretz, who made use of the blood of a sheep. The basilic vein of the young man was connected with the carotid artery of the sheep, and the blood thus transfused. The man survived the operation. The next experiment of these gentlemen was upon an insane man, calf's blood being used. The experiment continued two days, and over a pound of blood was transfused. At first the man complained of suffocation, and the perspiration started from him freely. At the end of the experiment he became sane and was restored to his family. Another experiment upon a man of sound mind was also tried with sheep's blood, and succeeded admirably. The result was hailed with great enthusiasm. It was believed that these experiments had discovered, so far as health and youth were concerned, the "Philosopher's Stone," so much sought after; that an old man could be rendered young, and a sick man well, by transfusion. But unluckily the insane man returned to his old mental condition, and died during a second operation. Parliament then, by special act, put an end to further experiments of the kind. After an interval of a century, the study of transfusion was resumed by Harwood, of Cambridge, England, who insisted upon the fact that in transfusion of blood among animals of different species they generally died some days after the operation.

With Blundell, Prevost, and Dumas, the subject of transfusion entered upon a new phase. It is above all due to the works of these laborers and those who followed, such as Dieffenbach, Thos. Bischoff, Brown Sequard, and others, that this subject has attained such interest, in a double point of view, to therapeutics and physiology.

Prof. Freer urged the necessity of defibrinating the blood; 1st, as a precaution against accident, and 2d, because by so doing the

operation can be proceeded with without haste, and is, indeed, perfectly at the command of a skillful manipulator.

Prof. Freer then stated that transfusion had been performed twice on the human subject, once in this city, and once in Atlantic, Iowa, and requested Dr. W. C. Hunt to read the notes of the two cases, which were as follows, viz:

Case 1. Feb. 7, 1870. Drs. Hunt and Wadsworth, in compliance with a request by telegraph from Mr. G. P. S., of Atlantic, Iowa, went to that place to perform "transfusion" upon his daughter, 18 years of age, who was supposed to be rapidly sinking from a lack of nutrition, occasioned by the effects of a drachm of aqua ammonia, administered by mistake. This was believed by the parents to have produced so severe an inflammation of the stomach as to have "destroyed the mucous membrane."

Her previous history was as follows: Slight hereditary taint of scrofula on paternal side. Fifteen months prior to this date, she became somewhat anæmic; the menstrual flow was suspended, and she had gradually declined in health from that time. About two months since (in Dec., 1869) the ammonia was taken. This hastened her decline, and on or about the 25th of Jan., 1870, she contracted a severe cold, which compelled her to take to her bed.

At the time Drs. H. and W. saw her, her condition was excessively anæmic, with the muscular and adipose tissues much wasted.

Symptoms. Pulse very irregular, varying from 112 to 150 per minute, small, thready, and at times almost imperceptible at the wrist.

Respiration 22 per minute, imperfect and labored.

Severe lancinating pains, principally in the right lumbar and hypochondriac regions; countenance expressive of great suffering and anxiety.

There were some evidences of tubercle in the lungs, but the severe cold, under which she was laboring, masked them somewhat.

The patient seemed in such imminent danger of death that they hesitated to transfuse, fearing she would die under the operation, but, at the urgent solicitation of her parents, finally consented. Preparations were accordingly made, and the operation performed, as follows:

At 11 A. M., Feb. 8, anæsthetized patient and inserted a canula in the cephalic vein of left arm. At 11.45, drew from the arm of a brother of patient, vinous blood, which, when defibrinated, amounted to eleven ounces.

This was kept at a temperature of 100 deg. F., by means of a water bath.

At 12.45 P. M., patient having fully recovered from the anæsthesia—pulse 112 and irregular, respiration as before stated—commenced injecting blood. This was done very slowly. At 1.15 P. M. the eleven ounces had been thrown in. No unusual sensations nor pain were experienced by the patient until the 10th syringefull had been injected, when she voluntarily remarked that she "*felt better.*" From this time to the close of the operation she several times and in different ways expressed her great sense of relief from suffering and anxiety.

Pulse, at 1.15 P. M., 80 per minute, volume much increased and steadier. Respiration greatly improved, and she was much more quiet. The pain, before noted, continued, and the apparent improvement was not of long duration.

2.30 P. M. Pulse 100. The pain and restlessness continuing, at this time a hypodermic injection of morphia 1-4 gr., atropia 1-60 gr., was made.

In a few minutes, the pain being relieved, she sank into a profound sleep, which at 4.30 P. M. became comatose, and we became fearful that she would never be aroused. The lungs were filling, and the efforts of coughing were feeble and inefficient.

During the next hour, there being no change for the worse, we decided to inject more blood.

This time a sister of the patient furnished the blood—fourteen ounces (defibrinated.)

6.50 P. M. Pulse 132, irregular, feeble; respiration slow, imperfect; patient comatose. Commenced injecting. In 36 minutes had finished injecting the fourteen ounces.

7.26 P. M. Pulse 120. As much improved in every respect as in the previous operation. Respiration also better in every way, and patient apparently *sleeping quietly.*

At about 10 P. M., a recurrence of the sinking, such as she experienced a few hours before, occurred. Stimulants and nourishment were administered as before, and she gradually

revived and regained her consciousness, but suffered from a return of the pain before described. This lasted during the whole of the night, as local applications only were made to relieve them.

Feb. 9, 7 A. M. Patient sinking; expresses a desire to have the operation again performed.

Dr. Wadsworth having returned home, Dr. Hunt, with the assistance of the attending physician, Dr. ——, consented to do it. Another brother of the patient furnished the blood (thirteen ounces, defibrinated.)

8.14 A. M. Pulse 130; other conditions as before. Respiration also as before. Patient rapidly sinking. Commenced injecting. In 21 minutes had finished (13 oz.) Pulse had fallen to 120, and together with the respiration were improved as markedly as in the two operations. The pain in the side continued as before.

Shortly after this time Dr. H. returned home, and in a couple of days learned that the patient gradually sank, and died on the afternoon of the same day.

The second case was a patient of Dr. P. Matthei, of Chicago, Mrs. S., aged 30 years. In the spring of 1870, she miscarried at the seventh month. Profuse hemorrhage accompanied and followed this at frequent irregular intervals, until the anæmia became alarming. Symptoms of septicaunia supervened, and, as a last hope, "transfusion" was suggested, and on the 21st of May—nearly three months after the occurrence of the abortion—it was decided to "*transfuse.*" Accordingly, with the following conditions and results, Drs. Hunt and Matthei performed the operation.

General condition of patient as above stated. Special condition: Pulse 132 per minute, small, thready, and at times imperceptible at the wrist. Respiration 58 per minute, spasmodic, gasping, sighing. Temperature in the axilla and mouth 97 deg. F. No delirium.

Preparations being made as in case 1, at 4 P. M. commenced injecting. In half-an-hour had injected nine ounces, pulse had fallen to 123, and, together with respiration, was improved in every respect. Temperature 98.

Patient expressed and otherwise manifested a great sense of relief from the exhaustion and anxiety from which she had so long suffered.

The change was so marked that the attendants observed and commented upon it.

Still, death was yet apparently so imminent, that the result of a few hours was waited for, with the intention of repeating the operation, but during the following morning she sank, and died ten hours after the operation.

Almost beyond question her life was prolonged for nearly this space of time by the "*transfusion.*"

ARTICLE III.—*Criticism on a Recently Reported Case—Scarlatinal Sequela, treated with Veratum Viride.* By H. W. BOYCE, M.D., Geneva, Wis.

My attention has been called to "Cases in Practice," February number of CHICAGO MEDICAL JOURNAL, Art. 1, of which one, "Case 4," was under my care. The report of "Cases" to be worth anything to the profession, should set forth all the facts truthfully.

On reference to my books, I find that Ida G—— was attacked with *Scarlatina Anginosa*, on Nov. 24th, 1870. Nothing worthy of note occurred during the febrile attack. The fever declined, and desquamation of the cuticle commenced about the fifth day. Subsequently, while attending the father of Ida G——, my attention was called to a slight sub-cutaneous œdema, affecting the eye-lids and face of the little girl. Coincident with the dropsy, there was slight febrile movement, with a pallid countenance. As these symptoms pointed unmistakably to *renal* disease, the ordinary sequel of scarlatina, "acute desquamative nephritis," I prescribed saline cathartics, fomentations over the kidneys, and sudorifics.

But little attention was devoted to this patient, as these measures appeared to be producing a favorable effect and an abatement of the disease. Early on the morning of Dec. 12th, I was called to see Ida, the messenger stating that she was in a fit. I then learned that early in the evening of the night previous, she had been attacked with pain in the head, and vomiting, which had continued during the night. Before I reached the house, the

parents had placed her in a warm bath. She soon came out of the convulsions. I then directed the attendants to apply ice to the head, sinapisms to the feet and ankles, and fomentations over the kidneys, with warmth to the lower extremities. As the stomach had become too irritable to retain medicines, I directed them to give enemas of Sul. Magnesia, every hour, the bowels not having been moved during the night. I hoped that these measures would be sufficient to ward off the danger threatening my little patient, (uræmic poisoning). In this I was disappointed. The convulsions returned with increased violence, and of a decidedly epileptiform character. I then gave Calomel, grs. 15, hoping that this, with the enemas, would produce free evacuations of the bowels. In this I was not disappointed; towards evening there were frequent movements of greenish fœcal matter. This, with hot air baths, and the application of warmth to the lower extremities, finally checked the convulsions. The case was evidently complicated with uræmic poison. Hence the treatment, as far as practicable, must be directed to the elimination of urea from the blood. This was attempted by restoring the function of the kidneys, the skin, and gastro intestinal canal.

To fulfil these indications, I prescribed:

℞. Calomel, gr. xij; Nitrate Potass. ʒj; Pul. Digitalis, gr. iv. M. ft. ch. No. xij.

One to be given every two hours. Fomentations of Spts. Terebinth, to be applied over the kidneys, and to have water to drink freely, with sinapisms to feet and ankles. The head to be kept cool by cloths wrung out of cold water or ice.

This comprised the treatment, with occasional enemas during the night, and until Dr. B. O. Reynolds was called in. On consultation, it was thought best by Dr. R. to give inhalations of Sul. Ether and Fl. Ext. Valerian; to substitute Chlo. Potass. for Sul. Magnesia, in the enemas, and give Decoct. Fol. Buchu, and Bac. Juniper. I concurred. She was extremely restless, with slight convulsive movements of the limbs, which it was hoped the inhalations would allay. The Chlo. Potass. enema produced such irritation that it was abandoned after the first trial. But little of the Decoct. Buchu and Juniper could be taken. The Sul. Magnesia was substituted for Chlo. Potass., and continued until evening.

On the second consultation with Dr. R., it was concluded to

try the effect of Veratrum Viride, if an opportunity should occur, in place of the Sul. Ether and Tr. Valerian. As the Dr. was to spend the night with the patient, it was left with him to carry out the programme. No other alteration in the treatment was suggested. Early the next morning, the father of the patient called me up and said that the Dr. had given two doses of the medicine, (Veratrum) and thought it helped her; that he had gone home, and he wished me to see if any more should be given. I examined the patient, but failed to see any marked improvement. Pulse and respirations remained extremely rapid, and there was great restlessness. In truth, the case looked very unpromising. As the extremities were cool, I had the warmth re-applied, and concluded that if the Veratrum had been beneficial during the night, I would continue its use. Looking around for the vial I found it gone. Thinking that the Dr. had *inadvertently carried it home*, I went to his house (not more than half a block from the patient), called him up, and inquired for the vial of Veratrum. In conversation with him, the Dr. said that he had given two doses of five m. each, and thought it had a good effect, but was doubtful if more could be safely given. Procuring the vial I returned to the house and gave three drops, watching the pulse for its effect. I thought I could perceive a slight diminution in the number of beats, with less restlessness. During the day I gave the Veratrum in small doses in combination with Acet. Ammonia, whenever indicated by the restlessness. As the day advanced, the patient become more quiet, the urine increased in quantity, with frequent alvine evacuations. To these changes in the secretions, I attributed the favorable change in my patient. The Veratrum, as far as I could see, produced no other beneficial effect than that of a sedative and sudorific. If the patient took the Veratrum under his direction as stated in the JOURNAL, then she got rather more than a double dose, and I cannot help but be thankful, that we did not kill her outright.

Through the JOURNAL I first learned this fact, and consider it most extraordinary, as up to this I had supposed that the patient was under my care, and that I was responsible for her treatment as her regular medical attendant, and that the Dr. was advising me as to the treatment of the case. During the night, he had charge of her treatment, but with the morning I again took

charge of the case, and kept it until the patient was convalescent as I supposed.

With the elimination of the urea from the blood, the restoration of the renal function—the patient convalesced without any further complications from the disturbance of the renal functions.

REMARKS.

In the review of this case, I am impressed with the conviction that the Dr. made a mistake in the proper diagnosis. It was not I think, a pure case of uræmia *per se*, but that the uræmic poisoning was due to the defective elimination of urea by the kidneys, and that this was due to the diseased condition of the kidneys, familiar to practitioners, as the dropsical affection which is apt to occur as the sequel of scarlatina, and was the cause of its accumulation in the blood at this time. If this view of the case was correct, then a rational treatment would have to be directed to the use of such remedies as would aid the vital forces in eliminating this poison from the blood through the kidneys, the skin, and gastro intestinal canal, if the Dr. had not discovered a specific for uræmic poisoning in the use of Veratrum. This rendered other remedies unnecessary. Perhaps if I had bled this patient at the commencement of the convulsions, I should have saved myself much anxiety in the after treatment of the case.

What beneficial effect had the Veratrum if any, in this case? To me it was apparent that the benefit was derived from its sudorific property, and sedative effect upon the nervous system, thus economizing the vital force expended in the restless, spasmodic movements, without checking secretion. The mere fact of lessening the pulse by the use of Veratrum was of no importance, without at the same time eliminating urea from the blood, that being the cause of the unnatural action of the heart. As to the question, "Is it a poison?" it is too absurd to require comment. In conclusion, allow me to say, in general terms, that the vaunting of heroic remedies, as specifics and cure alls, savors of quackery, and is on a par with Prof. J. Walter Scott's cancer plant, and others of the same class. No application is intended.

ARTICLE IV.—*Pepsine and its Incompatibles.* By I. S. HAWLEY, M.D., Brooklyn, N. Y.

Dr. Thomas King Chambers, in his most excellent book on "The Indigestions," speaking of pepsine, says: "But I think that since its introduction to general use, through the ingenious preparation of Dr. Corvisart, it has caused more disappointment than satisfaction. This is because it has been given in unsuitable cases, and because impossible expectations have been founded upon it."

That any one at all acquainted with the physiology of digestion could misapprehend either the indications for the use of pepsine, or found any expectations upon its use, other than the assistance it gives to the digestion of albuminoid articles of food, thereby improving digestion and promoting nutrition, it is difficult to perceive. Yet, doubtless, Dr. Chambers' observation is correct, and a very large proportion of the failures in the administration of pepsine have been due to the causes mentioned by him. Yet there appear to be still other reasons why the use of even true and active medicinal pepsines are unvailing. This is most strikingly illustrated in a short extract from a letter to the Editor of the CHICAGO MEDICAL JOURNAL, which appears in the editorial department of the March number of that journal, under the head of "Chlorate of Potash in Diarrhea and Dysentery."

It is not the object of this communication to notice mixture No. 1, which contains ingredients well known to influence diarrhea and dysentery favorably, without attributing any curative effect to the chlorate of potash; but to call attention to mixture No. 2, which the author denominates "Pepsine Mixture."

Here neither of the errors, mentioned by Dr. Chambers, occur. The case is well chosen, that is, the digestive organs debilitated by diarrhea and dysentery; and the expectation is just, and in accordance with physiological law, "to strengthen and improve the digestive organs and aid digestion." But with a proper object, and a suitable agent for attaining that object, he fails through careless pharmacy, or, perhaps more correctly, disregard of the facts of physiological chemistry, in formulating his prescription. No physiological fact is better established than that alkalies

neutralize or destroy the active properties of pepsine. It is well known that the organic principle or ferment called pepsin, is entirely inert when separated from the acid secretion of the stomach, and, for the same reason, becomes inert if the acid be neutralized by the presence of an alkali.

"With the acid there is always present an albuminous matter, which is absolutely necessary to the solvent powers of the gastric juice, and which thence has been named pepsin. It is, in fact, gastric juice without its water and without its acid, and *therefore with its powers dormant, though undestroyed.*"

"It answers our purpose better to view the free acid and the ferment as separate parts of the gastric juice *dependent, indeed, on one another for powers of action*, but not for existence as substances."—Chambers on Digestion and its Derangements.

"The following facts are worthy of notice in reference to the *digestive power* of the gastric juice: it is *suspended* * * * by saturating the free acid with an alkali, or even with the phosphate of lime, by sulphurous, arsenious and tannic acids, * * * and it is *very much impeded by the addition of alkaline salts.*"—Lehman's Physiological Chemistry, vol. i., page 453.

So much for the combination of an alkali with pepsine with the intent to "strengthen and improve the digestive organs and aid digestion."

We next pass to the consideration of the remaining ingredient of the mixture—brandy.

Alcohol is not so much a neutralizer of the active properties of pepsine, as a precipitant of it from its solutions. No chemical law is better known than that chemical action cannot be produced between different substances except one or both be in a state of solution. Hence, if pepsine be precipitated from its solution by alcohol, it cannot act upon the solid contents of the stomach. It is asserted by some that fluids of any alcoholic strength are incompatible with pepsine, though I believe the lighter wines are capable of holding it in solution, and are therefore useful vehicles for its administration. Let us examine the alcoholic strength of this so called "pepsine mixture." Brandy of average quality, sold for medicinal purposes, contains from 48 to 50 per cent. of alcohol. This he dilutes with an equal portion of water, making the mixture contain from 24 to 25 per cent. Now the stronger

wines contain only about 10 per cent., and those most suitable for pepsine wine, even less. It therefore appears that had not the pepsine in this mixture been neutralized by an alkali, it would have been precipitated by alcohol and consequently become inert.

It has been thought proper to say thus much upon this subject in the hope to counteract the pernicious effect of a published formula, which is made up of incompatibles. Few things are more taking to a young practitioner than a ready-made formula, which is asserted to have acted successfully. It is sure to be copied and used.

Whatever good this mixture may have done, one thing is sure, the good was not due to its peptic action. Simple pepsine is fully competent to accomplish all the indications here set forth, and if administered simple and alone would doubtless have done so.

Before concluding, it may be well to say a word upon the general subject of administering alkalies in dyspepsia. It is certain they cannot assist digestion, and only serve to arrest an acid fermentation, which is the result of imperfect or prolonged digestion; an imperfection and delay which pepsine would effectually prevent and therefore obviate the necessity for the alkali. Furthermore, it has been clearly proved by recent experiments of M. M. Rabuleau and Constant, that alkalies diminish oxidation and vital force, and induce anemia.

These influences must therefore be doubly damaging where vitality has been lowered by indigestion and consequent innutrition.

ARTICLE V.—*Case of Fracture of the Anatomical Neck of the Humerus, and Recovery.* By EDWARD DUFFIELD, M.D., Hannibal, Mo.

On the morning of the third of September last (1870), the writer was summoned at 7 o'clock P. M., at the request of his friend Dr. Brittingham, to assist him, in the case of the Hon. Jno. B. H—m, an old gentleman, over 72 years of age, who had fallen and injured his shoulder, to an extent which the Dr., from the hasty examination made, was not prepared to determine. The

case presents several points of such decided interest, that we shall feel warranted in giving the details at length.

It would seem, that the Judge, being in ill health, and a very rest less sleeper, was in the habit of rising at night, to walk the floor and smoke. On this occasion he had risen about 2 o'clock A. M., and placing a chair, had mounted upon it, in order to light his hall lamp; the chair lurching, pitched him upon his left shoulder, and also striking his head with sufficient force to stun him. The family, alarmed, put him back upon his bed; and not discovering any blood, or evidence of serious injury, other than the shock, did not send for their medical adviser until his moaning about six o'clock A. M., made them uneasy lest he might be more hurt than they at first supposed. The Doctor came, and from the first impression rather supposed the bone dislocated at the shoulder, and urged my being sent for. The writer found him on his back, in a semi-unconscious state; answering, yet indistinctly, when spoken sharply to, with his right hand firmly grasping his left wrist, the elbow in almost natural position close to the body, the arm not altered in its length or proportions, with no diversion of its axis, the outline of the shoulder perfect, with neither swelling nor depression of the deltoid, or of the axillary walls, and the arm susceptible of the diverse motions, though painful when moved, and with the head of the humerus distinctly felt in the glenoid cavity; and the idea of dislocation was abandoned. Having fixed the head of the humerus with my left hand, and seizing his left wrist, and pushing it firmly against the socket, and rotating at the same moment, a distinct, clear crepitus was heard and could be repeated; holding it thus fixed at head and rotated, by separating the muscles with the fingers, a lack of coaptation was discoverable, but not so when the arm was released and placed as at first; and the diagnosis was made of fracture of the humerus at the anatomical neck, and at once coincided in by Dr. Brittingham. The age, and the peculiar previous condition, combined to render this a grave and but slightly hopeful case; indeed, with but faint prospect of having any future use of the arm, admitting that life was spared.

The patient had been in ill health for two or three years, though previously a man of stalwart frame and vigorous constitution. About ten months immediately preceding this hurt, he had been seized with an incomplete hemiplegia of his right side, not

entirely destroying voluntary motion, but seriously impairing his memory, and suspending wholly his power of articulation. Even after the entire recovery of the voluntary power of motion in his limbs, the memory and speech remained almost as bad as at first. We say almost, for there were times when the memory seemed to light up, and his power of expression would improve for a few days, but only to relapse. At the moment of the injury, whilst his memory was improving, yet his speech was at times almost indistinguishable—points to be noted for reasons given later. During these few months he was very anæmic; irritable, appetite poor, bowels torpid, tongue coated densely with a closely adherent dirty brown coating, secretions scant, and himself very feeble, with considerable bronchial irritation and some cough, as Drs. B. and D., his former advisers, informed me, the writer not seeing him. This peculiar combination, as remarked, did not serve to encourage us, but something had to be done. The arm had not yet swelled, and neither did it, or but triflingly, during the progress of the case. We cut and fitted a stout sole leather splint to the shoulder and along the whole length of the arm, moulding it easily, after soaking in warm water, padding with wool carded, (which we prefer, on account of more elasticity, to the cotton), over the projections of the elbow and wrist; and over this was applied firmly, yet carefully, a bandage, with the latter and the splint, so arranged at points as to apply arnica, camphor, etc., when needed. The arm was slightly flexed at the elbow and placed upon a pillow, and padded around lightly to support it; and careful watching enjoined upon his attendants to see that it was not moved, except when we were present to direct it.

For six days he lay in a semi-stupor; partially conscious when aroused ,and his attention fixed, but sleeping stertorously when left to himself. During this time he was given freely beef tea, rich milk, brandy, etc., and the carbonate of ammonia, under which, for the first time since his paralysis, his tongue cleaned, and under the use of it and bitter infusions, he became conscious, *memory aroused*, *speech clear*, appetite improved—and with these an inordinate craving for spirits and cigars. We forbade the latter, entirely, giving him brandy, only as it seemed required by circumstances. In our absence he would manage, through servants or others, to get his cigars, and after smoking he was invari-

ably betrayed, by the presence of hiccough, often prolonged to exhaustion. When he suffered from pain or sleeplessness, the hydrate of chloral in ten grain doses, seemed to exert a happy influence over him. As he rallied, we gave him iron and quinine, and a more liberal diet of beefsteak, game, mutton chops, soft eggs, fruit, etc. The family and friends remarked from the moment of his fully returned consciousness, the restored memory and improveds peech; he recalled incidents to them forgotten before his paralysis, and inclined to be very talkative and pleasant, as formerly.

It was but a short time from his resumption of speech, until the writer discovered that he was aphasic and called the attention of Dr. B. to it, in order to the ascertaining whether this was the case antecedent to the fracture or not, but the Doctor had not noticed, nor had his family—in fact, they had never thought of it until attention was called to it; and it was a matter of regret to me to be unable to decide whether his aphasia was the result of his fall, or previous paralysis. Certainly the fall seemed to awaken his dormant memory and to restore his suspended speech; we say suspended, so imperfect was it before. In arranging his business affairs, he recalled incidents, anterior to his paralysis, which even his lawyers had forgotten, and yet were essential to the management of his large estate; and indeed so accurate in minutest details was this restored memory, that when his agents would doubt or contradict, he would prove himself right by reference to the documentary evidence or living witnesses. Yet when speaking, his substitution of words for each other, or his forgetfulness of them entirely, would be noticed by himself, when he would laughingly say: "I know what I want to say, but can't hit the word"! The idea would be there, but often laughably mixed in expression. He would always speak of "his leg being broken at the shoulder," never calling it arm; and if reminded of it, in a moment would say leg for arm again. He would say "that his broken leg was sore, so that he could'nt move his hand"! He would ask his wife for "a —— to put the fire of his smoke in," meaning a waiter for the ashes of his cigar. And when any one was writing for him, and he would halt at a word, he would say, "you know what I mean," and on being told, would go on until brought to a halt again. He observed it

himself and would often laugh at it, saying, "my mind is all right, but the words quit me"!

The splint was kept on for seven weeks, and when removed we found, in spite of our care, two ulcers—one on the elbow, the other on the wrist; these, however, while somewhat tedious, healed kindly; and certainly no persons could be more surprised and gratified to find the fracture firmly knit, without deformity or lameness. Whether or not the union is bony, let others decide; we know that it is now perfectly solid and unyielding, and that the patient, though otherwise very feeble and infirm, has in all particulars excellent use of his arm; feeding himself, and lifting readily and securely with it—in fact, moves it in all directions, and it is unyielding at the former point of fracture.

We inclined to the opinion, then and now, that the line of fracture extended outside the capsular ligament; and how much influence, if any, was exerted by this in the healing, we are not prepared to affirm. When we recapitulate the circumstances, of the fracture of the anatomical neck in a paralytic of 72 years of age, anæmic and enfeebled, and consider the chances of securing any union, it seems as though hopeless, and certainly encourages us not to despair under the most adverse circumstances.

It may be asserted that we may have been mistaken in the fracture, or, at least, in its character. As to the first, we know we were not—it was too palpable; and as to the second, it may be possible, yet we think not, and we are supported in this by the peculiar diagnostic symptoms given. Had there been a lack of coaptation at rest, or a difficulty of preserving it at any time; or had the elbow hung away from the body when he was raised, and the arm left pendant; or had the shaft and head of the bone moved separately, and not synchronously, why we might possibly have divined a different fracture—that of the surgical neck, perhaps—but none of these things were found, or not enough, at least, united to alter our opinion.

It was the second case of fracture of the anatomical neck of the humerus we had ever seen, and presented several salient points of such decided interest to my own mind, that it seemed entirely possible it might interest others no less; and hence the space taken up in reporting it.

ARTICLE VI.—*Case of Transplantation of Skin at Cook County Hospital.* By E. POWELL, M.D., Attending Surgeon.

A. B., æt. 30, blacksmith, entered the Hospital January, 1871, for an old recurring ulcer of the leg, measuring two and a half by three inches.

Parts of its surface were deep, irregular and offensive. The patient was placed in bed, the limb elevated, and the ulcer dressed with weak solution of carbolic acid, under which it improved somewhat, but yet showed little or no disposition to heal.

It was soon determined to see what could be accomplished by the transplantation of skin upon the surface of the ulcer. Accordingly, four pieces of healthy epidermis of the size of a millet seed were removed from the inner aspect of the thigh, and inserted in a little cut made in the granulations, with the idea of giving the ulcer several points to heal from, and thereby hasten its closure; a dressing of adhesive plaster was applied. At the end of the fourth day there was nothing to be seen of transplanted skin, but on the eighth day two small isolated spots of something like cicatrization made their appearance at the points where the skin had been imbedded; this began to increase in diameter very rapidly, so much so that at the end of three weeks they were as large as a ten cent piece, appearing like islands in a sea of granulations; they were rapidly increasing in size, and two more pieces of skin were transplanted on the other portions of the ulcer. At the end of six days they were evidently commencing to send forth patches of cicatrization, which steadily progressed without interruption for nine weeks, when the ulcer was healed.

During this time there was very little effort at repair from the edges of the ulcer, the cicatrization extending almost altogether from the points of transplantation.

The only peculiarities of the cicatrix observed were its white color, and want of sensation to any foreign body.

The above brief history illustrates the points in two additional cases that were treated in the Hospital in the past six months in the same manner, with equally gratifying results, and it seems to me will work a new era in the treatment of extensive burns, by preventing the deformities which always follow such accidents.

One point is certainly plain, that the wound must heal over in a much shorter time, with much less suffering than usual, and without deformity consequent upon the contraction of the cicatrix which would otherwise follow.

ARTICLE VII.—*Opium in Metro-Peritonitis. Review of a Criticism.* By W. L. JOHNSON, M.D., Crawfordsville, Indiana.

An article in the February number of the *Chicago Med. Journal*, entitled Opium in Metro-Peritonitis, by Theodore Griffin, M.D., with comments by Walter Hay, one of the editors of the *Journal*, was read by me with some surprise; surprised that such a criticism should come from such a source.

The subscribers of the *Chicago Med. Journal*, are of the greater part former students of Rush Med. College, and the *Journal* is understood to be the organ of, and to reflect the principles and teachings of that institution. As I left that college but three years ago, its teachings and precepts are still fresh in my mind. Allen—although usually opposed to the heroic plan of treatment of disease—says, in giving opium or other anodynes, the object is to always relieve pain, and that excessive pain must always be relieved; the practitioner who does not accomplish this, does not his duty. Gunn says opium has no dose—in excessive pain there is no dose for opium. I am not positive as to his exact words, but his teachings are the same as Doctor Griffin's in his article—*let the indications be met in the treatment, howsoever large the dose of the drug may be.* I hold that this is the doctrine and practice of every member of the faculty of Rush Med. College. If there is an exception it should be made known, as it is a matter of no little importance. It is important to know what is good practice in the administration of opium—whether the practitioner is justified in giving three or four grains every half hour when there are excessive and lancinating pains; whether it is right to give five grains each hour for a day, or sometimes in extreme cases even to give tincture of opium in one dram doses every fifteen minutes until

pain is relieved. Let Prof. Allen answer to this point, for himself, for Prof. Miller, for Prof. Ingals, for Prof. Gunn, for all the faculty of his college. According to my understanding of the teachings and opinions of these gentlemen, they would justify Doctor Griffin in his treatment of the case reported.

A sentence, within the criticism enclosed in brackets, followed by an initial A, would lead the reader to suppose that Prof. Allen endorsed the whole criticism. But I am inclined to believe Prof. Allen did not carefully read the article and criticism. I consider the criticism extremely lame.

Let us, if you please, give this criticism a short review.

The article is "published as an illustration of the degree to which the human system can be educated into the frightful habit of opium eating." This same idea is enunciated in one of the four possible explanations given at the end of the criticism. "The woman was an opium eater already." The absurdity of this idea is proved by the fact that the woman was narcotized by the last six grains, after the pain had abated, when she had been taking such large doses for so long a time without any signs of opium poisoning, remembering at the same time that there was an interval of sleep just preceding the poisonous doses, so that the effect cannot be attributed to any of the drug taken while there was great pain. It was just as all of us were taught at Rush Med. College and as experience has shown us in practice since. Opium is an antidote of pain, and, *vice versa*, excessive pain requires excessive doses of opium.

Modern physiology surely does not teach that when the uterus and surrounding peritoneum are inflamed and the "bowels are constipated," "pulse 90 and bounding," that the use of opium is contra-indicated. Physiology does teach that inflammation of the parts mentioned can be controlled to some extent by the influence opium has on the nervous system, through the blood, be the bowels constipated or not. What has that portable privy, the rectum, to do with an inflamed uterus and peritoneum? A brisk purgation might be well to lessen the force of the circulation, but is of small importance compared with the influence to be obtained by large doses of opium. There are some quibbles as to words used and the author's style of expression, which properly lie between the author and his critic. Let us pass them.

There seems to me nothing strange in the report of the first day's attack, when the "symptoms yielded to a little mild treatment," or that there should be a relapse on the next day so severe as not to yield to large doses of opium. There might be a quibble raised as to the way the word *symptoms* is used, but that is a small affair.

The critic follows the phrase "no signs of opium poisoning" with a note of interrogation; and gives some quotations as if to prove that there was opium poisoning, or at least the use of opium contra-indicated.

"The nervous system much disturbed and agitated," as one quotation—this I hold to be the effect of the disease, and requiring an increased dose of the drug. "No urine passed for 11½ hours" —which proves nothing unless a partial paralysis of the bladder, which the opium would not aggravate but rather tend to relieve. "The mammary secretion gone"—this should not affect the general treatment.

And although at length the "nervous symptoms were better," "with some subsultus tendinum," yet the author is justified in maintaining his previously large doses; first, because there being subsultus tendinum proves the change for the better not great, and second, because after the continued use of opium for many hours, it requires larger doses, to get the same effect, than when first administered. It is a familiar rule in therapeutics—a continued use of opium requires an increase in the doses. Six grains an hour now, even with the symptoms a little better, have no more effect than four grains thirty hours ago, even with symptoms worse.

Notice, farther on, how severe the critic can be. "Was she better? More opium! Was she unchanged? More opium!! Was she still worse? still more opium!!!" A new exclamation point at each question and answer, and the way he has written it there does seem to be some mirabile dictu about it. But let us reverse these explosions of words and see how they sound. "Was she worse? more opium,"—well, why not? If it is the onward march of the disease and the lancinating pains are worse and the nervous system more disturbed and agitated, it surely would not be well to decrease a dose which had not acted too much or too well in its controlling influence. The veriest neophyte would say, in-

crease the dose—work carefully, but increase the dose. "Was she unchanged? increase the dose; more opium." To be sure, and for the same reason as when getting worse. "Was she better? more opium." If after the continuous use of this drug for 38 hours and symptoms are but slightly ameliorated, it is still necessary to keep up the increase of dose. Who says nay?

There is a criticism as to the delay in the use of the catheter. Sixteen hours is no great length of time for urine to remain in the bladder. It may have been too long a time in this case. He was the best judge who was there to see.

As to the "arrest of the renal secretion," mentioned at one time, it seems to be altogether an invention of the critic, as the author mentions nothing but retention of urine—no suppression. Suppression is attended with uremic poisoning—and there was none in this case.

It would seem that the editor has some spite or jealousy to work against this author by the way plain facts in this case are perverted and misstated. The criticism surely has not the foundation of good sound knowledge either theoretical or practical, not but the editor is learned, but in this case he has in some inexplicable manner been led astray.

When, at the suggestion of a professional friend, whose large experience entitled his opinions upon kindred subjects to respect, we entered our protest upon the pages of this JOURNAL, (Feb. No.) against the reckless use of a certain valuable remedial agent, we certainly had no expectation of seeing the necessity for the protest so speedily and fully demonstrated as in the above communication, which speaks for itself and needs no "Review." On our own behalf we shall refer to but one point in this *gentlemanly* communication, *i. e.*, to the charge of personal spite and malice; to which our defense is, that we were first made aware of the existence of the author, by the publication of the "Report" in question. In view of the thorough self-condemnation of the above, we publish it entire, in all its native elegance of style and diction, and courtesy of tone.

As to the impression which seems to rest upon the mind of our courteous correspondent, that the JOURNAL is the organ of the

Rush Medical College, it is, like some other of his impressions, a delusion, which not having created we are not responsible for. Concerning the teachings of the Professors of that Institution as a body, knowing nothing, we have nothing to say.

Professor Miller particularly desires that the misrepresentation of his views contained in the above, be corrected, assuring us that he had consistently and persistently warned his pupils against the pernicious theories thus falsely attributed to him; that he had authorized the use of opium only to allay pain and to retard the retrograde metamorphosis of tissue.

Prof. Gunn informs us that while he is quoted, with verbal accuracy, as refusing (of course) to specify doses of opium—he declines the paternity of such wholesale therapeutics.

Had our correspondent, by the assumption of a somewhat more courteous tone, entitled himself to courtesy in turn, we might have placed him in possession of further information concerning the "case" which would have enlightened even his understanding, but he must e'en bore his own hole through the mill-stone, or we fear he will never see the "other side."

We trust that no patient may die under the heroic system advocated above, lest the officiating executioner might perchance receive the baptism of Gratiano—of hemp, with twelve godfathers. W. H.

Spontaneous Combustion.

Facts accumulating with reference to this subject seem to show that a much greater number of articles in common use may spontaneously ignite, than was formerly supposed. An instance of this kind has lately occurred in which oily iron chips, or borings from a gun factory, upon being carried out and exposed to the air, oxydized so rapidly that the oil, with which they were saturated, burst into a fierce flame. In general, it may be stated that it is dangerous to leave any material of a porous or spongy nature, saturated with oily matter, in a position where it can communicate fire to other combustible materials.—*Med. Jour.*

Selections.

On Mechanical Means of Relief in Certain Cases of Inflammatory Abdominal Effusions. By JAMES RISDON BENNETT, M.D.

In several recent numbers of the *Practitioner* reference has been made to the successful treatment of tympanitic distension of the belly by puncturing the intestines through the abdominal walls. Should further experience prove that this may be as safely done on the human body as we know it is in the case of animals, there can be no doubt that, in various forms of abdominal disease, great advantage may be derived from such a mode of relief to the distress and danger attending extreme distension of the belly from tympanitis. The intelligent practitioner will be able to judge how far puncturing the intestine may be admissible in any given case, just as he now does of the dangers attending the ordinary operation of paracentesis abdominis. But we must wait for further experience before any definite rules can be laid down regarding the circumstances in which we should be justified in having recourse to an operation manifestly not devoid of serious risk. In the meantime, every instance in which the operation has been resorted to deserves to be recorded. For this reason, therefore, I have thought that the interesting case I am about to detail might be a not unacceptable contribution to the *Practitioner*. It is certainly a remarkable example of the bold and successful employment of mechanical means of relief in one of the most common forms of abdominal disease falling under the care of the physician, and will, I am sure, be read with interest by every practical physician.

The war having broken out just as I was preparing to take my continental holiday, and so interfering with my projected route, I determined to visit Russia by the Baltic and return by Stockholm and Christiania. I thus had an opportunity, this year, of seeing something of the Northern hospitals, although, as a rule, I think it desirable to leave physic behind me and eschew hospitals and matters medical when on my holiday. There are, however, both in Russia and Scandinavia, things worthy of notice by British practitioners.

At Christiania I was introduced to Dr. Stabell, a most accomplished and able physician attached to the principal hospital of that place. Among other cases of unusual interest (including both the forms of Norwegian leprosy, the tubercular and the anæsthetic), he showed me the young man whose case I am about to describe, from the full and careful notes kindly furnished me by Dr. Stabell.

A medical student, aged 24, entered the Christiania Hospital, as a patient, on the 17th March, 1870. Twelve days previously he first felt unwell, having headache and loss of appetite. He was not, however, obliged to keep his bed, but even went out occasionally. Whilst out walking on the 13th March he was seized with a sudden pain in the hypogastrium, which became tender on pressure, and he thought somewhat swollen. He went to the theatre the same evening, but was obliged to leave in consequence of the pain becoming worse. The following day he went out again, and accidentally got a kick on the belly by which the pain was so much aggravated that he was obliged to take a carriage home and go to bed.

17*th.*—On admission to the ward of the hospital his condition was as follows: Loss of appetite, thirst, some sickness and vomiting, the latter having existed two days, together with diarrhœa. Yesterday he had seven fluid evacuations. Pain in the hypogastric region, not severe when quiet, but increased by motion or coughing. The whole abdomen tense and swollen, not very tender on pressure, except between the umbilicus and the left iliac crest, where there is extreme tenderness. Percussion dull from the umbilicus to the symphysis. Fluctuation not very distinct. Sound on percussion tympanitic from the sixth rib to the navel. Heart and liver normal in situation. Lungs apparently normal, but he has some cough and dyspnœa. He lost a brother from phthisis last year. Pulse 96. Temperature 37·8 centigrade. He was ordered tinct. thebaicæ and acid. hydrocyan. dil., āā m v. every two hours; a wet bandage to the abdomen, and hypodermic injection of morphia in the evening.

For some days his condition was much the same. On the 25th the dullness on percussion extended to five fingers' breadth above the navel. There were daily two or three loose motions, and the occasional passing of flatus gave him considerable relief. The pulse, however, fell to between 70 and 80. The temperature ranged between 37 and 38 centigrade, and the tongue was dry.

31*st.*—Eight leeches were applied to the abdomen, and an enema administered. The pain was for a short time relieved by the leeches, and still greater relief followed a copious action of the bowels from the enema. The pain and some tenesmus, however, soon returned, and he had sickness and bilious vomiting. Two morphia injections afforded very little relief. The upper part of the belly became greatly distended from tympanitis, and there was more prostration. He was ordered opii gr. ½ and calomel gr. 1 every two hours. An œsophageal tube was introduced into the rectum, through which some air and fluid motion passed.

April 3d.—The distension of the transverse colon had become very great, and there was more dyspnœa. An exploring trochar

was therefore introduced into the most prominent portion of the transverse colon, and a good deal of air evacuated with considerable relief. The following day, however, the distension was as great as before, and it was now determined to evacuate the fluid by tapping with an ordinary trochar. The abdomen was punctured midway between the umbilicus and the symphysis pubis, and four "potter" of yellowish semipuriform fluid removed (the Norwegian measure "pot" contains 1,000 c. c.). It was not attempted to remove the whole of the fluid, the trochar being withdrawn so soon as the fluid began to flow slowly. The size of the abdomen was considerably reduced, but the distension of the transverse colon remained the same. The following day the patient felt better, but complained of pain in the left leg, which had become œdematous. There was tenderness along the course of the large vessels and some tumefaction of the veins. Large water enemata were administered daily, which removed fæculent matter and a good deal of flatus. Some pain and soreness existing around the puncture, an ice-bag was applied. The following day he vomited occasionally, but the swelling of the leg somewhat subsided.

5*th*.—Temperature 38—37·1. Pulse 88. He continues the use of lukewarm water enemata.

8*th*.—Some return of appetite and more sleep. Tongue less dry; two to four semi-fluid motions a day.

15*th*.—Effusion extends to two fingers' breadth above the navel, and paracentesis was again performed, by which over two "potter" of thick pus were evacuated.

16*th*.—The percussion dulness extends from the symphysis to two fingers' breadth below the navel. ℞ Extracti cinchonæ, tinct. nucis vomicæ, āā ʒ j, aquæ fœniculi ℥ j, M: a teaspoonful to be taken three times a day. The effusion speedily accumulated again, and on the 25th he was tapped a third time, and 3¾ "potter" of somewhat offensive pus were withdrawn.

26*th*.—Pulse 72.

28*th*.—Pulse 72, temperature 36·6. Bowels act two to three times daily. Motions more solid.

May 4th.—Some œdema of the scrotum; this, however, on the 7th had nearly disappeared, but the feet and ankles were a little œdematous; percussion dull to the navel, but less towards the iliac fossæ, and towards the centre the abdomen is more prominent and resistent where the sense of fluctuation is distinct. On the 8th all medicine was omitted.

12*th*.—Abdomen again tapped, and 4½ "potter" of offensive pus evacuated. A day or two after this he was ordered a tablespoonful of chalybeate cinchona wine three times a day.

16*th*.—Some strangury and a little pus in the urine.

20*th*.—Effusion again increasing up to the navel, with distinct

fluctuation in the iliac fossæ and a little hard infiltration in the abdominal wall, in the vicinity of the puncture. He, however, feels better; was up in a chair for two hours yesterday, and had one copious natural action of the bowels.

21st.—Tapped with a larger-sized trochar, and a "pot" and a half of pus evacuated. Through the canula of this large trochar, another double canula was introduced, and by means of an india-rubber tube and an elevated reservoir of water, the abdominal cavity was washed out with a weak solution of common salt in warm water, till the water from the abdomen ran away quite clear.

22d.—Passed a comfortable night after a morphia hypodermic injection. Bowels acted once naturally. The percussion note is now clear almost to the symphysis pubis. Urine clearer, and less frequent desire to pass water.

24th.—Has been up again.

27th.—Urine sedimentous, feebly alkaline, presenting, under the microscope, some pus-cells and vibriones. Some discharge, now and then, from the puncture, which remains open. A drainage tube was introduced into the abdomen, to the extent of five inches, and left in the orifice; and this he continued to wear.

June 23d.—Was out in the garden; still wears the drainage-tube in the abdomen. Urine continues alkaline, with a muco-purulent sediment. Appetite, aspect, and strength much improved.

July 17th.—Continued in much the same state, the discharge from the fistula varying in amount and character, the pus being sometimes offensive. The urine has maintained the same character. He has felt well and been out in the garden daily. Yesterday, however, he had a rigor followed by perspiration and headache, the temperature rising to 39·4. This morning he felt better, but at ten o'clock there was a recurrence of rigor with a temperature of 41. Pulse 134. The drainage-tube cannot be introduced beyond half an inch; but, after an exploration with a probe, the tube again passed in to the extent of three inches, when some offensive matter was discharged. Ten grains of quinine were given in the morning.

On the 19th July the temperature had again fallen to 36, and the pulse to 56. With the exception of the cystitis, which did not trouble him much, as there was no pain and scarcely any tenesmus, and for which he took first decoct. uvæ ursi and subsequently decoct. pareiræ, he was now pretty well again. On the 27th July, however, he had another severe rigor early in the morning, the temperature rising to 41° and the pulse to 140. He now left off all other medicine and began taking quinine. There being some tenderness around the fistulous opening, a wet bandage was applied.

July 28th.—He was again pretty well, the temperature having fallen to 36·6 and the pulse to 60, and the tenderness of the orifice had vanished.

Thus far I have given the history as kindly furnished me by Dr. Stabell. When I saw the patient in August he was sitting up in his room, looking pale and pulled down, as though he had had a severe illness, but he was cheerful and free from fever or any discomfort. His pulse was quiet and of fair strength, the tongue clean, the appetite good, and the bowels regular. The abdomen was soft and pliant, of natural form and size, and devoid of all tenderness on manipulation. He was still wearing the drainage tube, which he withdrew and replaced to show me the ease with which he could do so, and the depth of three to four inches to which it passed within the abdominal cavity. I could not detect any local hardness or swelling, and the abdomen had its natural, soft, elastic feel.

He left the hospital to go home on the 23d August, feeling in all respects well, but still wearing the tube, as there was still sufficient discharge to make it imprudent to allow the opening to close.

Before drawing any conclusions from this very interesting and instructive case for future therapeutic guidance, it is important to satisfy ourselves as to the real nature of the case. That there was a low form of peritoneal inflammation cannot admit of doubt; but was it, in the first instance, general peritonitis or localized in the lower pelvic region? And, subsequently, was the lower abdominal region shut off from the upper by adhesions? Thus did the saline injection wash out the whole abdominal cavity, or only a limited sac; and did the drainage-tube pass into the abdominal cavity, or only into such a sac? That at one time a very considerable amount of fluid existed in the abdomen cannot be doubted; and this evidently accumulated, in the first instance, in the lower belly. The tympanitic distension of the colon and the deranged state of the intestinal functions would seem to imply that the inflammatory action was not at first very limited. The slight degree of febrile disturbance and low temperature, except on the temporary occasions mentioned, may, perhaps, in the opinion of some persons, rather militate against the notion of general peritonitis. But it is not, I think, at all uncommon to find an almost entire absence of fever in the low forms of peritonitis seen in tubercular subjects.

But whatever view may be taken of the case, the treatment so successfully adopted appears deserving of commemoration and of careful consideration in cases of inflammatory effusions into the abdomen, attaining to such a degree, and lasting so long, as to threaten life. The patient in this case expressed to me the great

relief that he obtained by the evacuation of flatus from the colon, and believes that his life even was thus saved.

It is now pretty well established that many cases of empyema do best when a free permanent opening in the thoracic walls allows of continuous discharge of the purulent secretion. In some important respects the abdomen is more favorably circumstanced for such a procedure than the thorax. Nature herself adopts such a mode of relief, and I have seen cases of extensive tubercular peritonitis where life appeared to have been considerably prolonged by the drainage of the effusion through a spontaneous opening through the abdominal walls. I remember having had under my care, many years ago, a lad who was the subject eventually of universal peritoneal inflammation and adhesions. In the early stage of his illness he had symptoms of obstructed bowel and a tumor in the right groin distended under the impulse of coughing. For this he had been taken to one of our London hospitals, and was operated on for inguinal hernia From the opening thus made there was a continuous discharge for some time, with very considerable temporary improvement in his condition.

How far the washing out of the peritoneal cavity with the weak saline solution may have contributed to the favorable issue of the case detailed, it may be difficult to say. But it is a practice occasionally resorted to with advantage, I am told, after operations for ovariotomy.—*Anstie's Practitioner.*

On the Treatment of Typhoid Fever by Cold Water Baths. By J. H. Tyndale, M. D., House Surgeon to the German Hospital, N. Y.

Late researches have developed a method of cure, by the application of which we are enabled to reduce the rate of mortality among typhoid fever patients by from three to five per cent. This method is the treatment of typhoid fever by cold water baths, practiced in the last century, but lately revived by Brand, of Stettin, and since submitted to a scientific and practical test by a great number of physicians on the continent of Europe. The verdict in favor of this method of treatment of typhoid fever on rational principles has been universal, and attested by numerous and responsible clinical reports, comprising many thousands of cases.

The cold water treatment cannot prevent the natural course of typhoid fever. The natural phases, with their peculiar anatomical changes, will appear in an undiminished degree. Cases of

death from perforation of the bowel or hæmorrhage have not been diminished any more than if no treatment at all had been prescribed. The cases of death from these causes, however, has always been counted as an incomparably small fragment of the total mortality among typhoid fever patients. The principal source of danger for the patient is the *fever heat*, either directly or indirectly, and we are enabled to reduce this unnatural elevation of the temperature of the body, and thereby the degree of danger to the patient, by cold baths. The dangerous effect of fever heat in typhoid fever, as manifested by the so-called nervous manifestations: delirium, sleeplessness in the firsts tage, listlessness in the further course of the disease, depends entirely upon the continued unnatural temperature of the body. Death from these causes has never revealed any anatomical lesions. *Such symptoms will not manifest themselves if by timely, energetic, and oft-repeated withdrawal of warmth, a cooling off of the body is effected.* The patient remains sensible, and involuntary voiding of fæces and urine is of rare occurrence.

Not merely the psychical manifestations, but also the other functions of the nervous system, as well as muscular activity, are more or less impaired by fever heat. The paralyzing influence is shown by the feebleness of respiration, giving rise to the fatal collapse and inflammatory conditions of the lungs. The fever heat checks or limits excretion, interferes in this way with the functions of digestion, produces loss of appetite, and stops the supply of natural material necessary to supply the rapid waste of tissue.

All these sequels of the feverish overheating of the body are observed to manifest themselves in a lesser degree by the use of cold water baths. Thus, all competent observers are agreed upon the fact that the patient never loses his appetite; on the contrary, takes food during the whole course of the fever, so that extreme emaciation will not ensue, and the patient regains his strength in a shorter space of time from the period of convalescence. Bed sores, so frequent and unavoidable in typhoid fever, have been but rarely observed during the cold water treatment. In short, all secondary complications of typhoid fever have been totally excluded by this method of treatment, and the whole course of the disease has been completed in four weeks.

The general rules to be observed in administering cold water baths are the following:

1. The necessary reduction of temperature is best and most rapidly effected by immersing the whole body.

2. The water should be as cold as can be had.

3. The patient should be bathed as often as the temperature of his body, measured in the rectum, rise to 40° C. (about 104° Fahr.) Since the intensity of the manifestations of disease vary

much, it may occur that in one case one or two baths in the twenty-four hours will suffice, whereas, in another, as many as twelve or sixteen will be required in the same space of time.

4. The length of time for each bath must be governed on the one hand by the degree of fever heat, on the other by the temperature of the water used. On the whole it will be found that in a bath varying from 5° to 10° C., an immersion of from seven to ten minutes will suffice. Should the temperature of the water be above 10° C., the bath is to be continued for fifteen minutes, and if above 15° C., still longer.

No attention needs to be paid to the seeming discomfort of the patient, manifested by complaints, nor to the chill often occurring during the bath, and continuing for sometime afterward, as they are of no consequence.

5. After the bath, the patient should be carefully wiped dry (not rubbed), especially his feet and toes. If the water has been of very low temperature, the feet may be enveloped in warm cloths, as many patients complain of pain in the feet after a very cold bath.

Opinions differ as to whether it is best to immerse the patient in a cold bath (say of 10° C.) at once, or to have the water at a temperature more nearly the same as that of the body, and effect a gradual reduction by a slow addition of cold water. Niemeyer, who may be considered the best authority upon the subject, is in favor of a gradual reduction. With due deference to this opinion, however, I must say that repeated trials have satisfied me that by a sudden immersion in cold water two advantages are gained —1st, the reduction of temperature will be greater, more nearly approximating the normal temperature of the body; 2d, less time will be required, and consequently the patient will be less annoyed. In the cases under our observation we have found from one-half to two hours after sudden immersion the temperature reduced to 38.5° C. (normal), when before the bath it had been from 40° to 40.5° C.

When the temperature of the body has not been above 39.5° C., we have been in the habit of enveloping the patient in wet cold sheets for fifteen minutes. In other cases in which it was desirable to move the patient as little as possible, we have resorted to a sponge-bath of cold water and vinegar. Both methods produce a limited decrease of temperature, not exceeding one degree.

The antifebrile effect of cold water baths will be materially aided by large doses of quinine. From eight to ten grains of sulphate of quinine, administered every second evening, will surely obviate the necessity of frequent baths on the following day. Large doses, more frequently given, are apt to disagree, as also to lose their effect.

The *thermometer* is indispensable as an aid to the cold water treatment, as without it this method would lack the necessary safety in its application. The rectum is undoubtedly the best point of observation of the thermometer. In five minutes after the introduction of the bulb, the mercury will have reached its maximum height, and no disturbing influence can injure the correctness of observation, as is often the case in the introduction of the bulb into the axilla.

The severer the case, the oftener should thermometrical observations be made. In mild cases, in which even the evening temperature (always higher than the morning temperature) does not exceed 40° C., two or three observations may suffice; whereas, in severer ones, this should be done every two hours day and night, in order not to miss the right time for the repetition of the bath.—*St. Louis Medical and Surgical Journal.*

Editor's Book Table.

[NOTE.—All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN & COOKE, whose catalogue of Medical Books will be sent to any address upon request.]

General Surgical Pathology and Therapeutics, in fifty lectures. A Text Book for Students and Physicians. By Dr. THEODOR BILLROTH, Professor of Surgery in Vienna. Translated from the fourth German edition, with the special permission of the author, by Charles E. Hackley, A.M., M.D., Surgeon to the New York Eye and Ear Infirmary, Physician to the New York Hospital, Fellow of the New York Academy of Medicine, etc., etc. New York: D. Appleton and Company, 90, 92, and 94 Grand street. 1871.

The translator informs us in his preface that: "Most of the views found in these lectures have been floating through the journals for several years past; but, so far as the translator knows, they are not so fully presented in any book in the English language." This information was hardly necessary to those who will

be likely to purchase the book, nor was it necessary as a reason for the work which he has so well performed. In fact, the circumstance of the floating condition of certain ideas is but a poor reason for giving them book form. It needs but the authority of Virchow, for instance, to set any idea permanently afloat in periodical literature; the idea itself may be wild, visionary, and even foggy, but the parentage will secure the propagation upon the pages of the journals and the tongues of teachers, without the accompanying criticism, which would be, at least, wholesome. A glaring fault of the profession, both in this country and England, for the past few years, has been to accept, unchallenged, the dicta of a few German authors.

We commenced the perusal of Dr. Billroth's lectures with great expectations, and although profit as well as interest has attended our steps, we confess to disappointment, the reasons of which will appear as this article progresses. The scope of the book differs from Paget's Surgical Pathology in that the author enters largely into symptomatology and therapeutics, thus rendering it acceptable to a larger class of readers.

On the subject of suppuration, Dr. Billroth coincides with Cohnheim in deriving his supply of pus corpuscles from the colorless blood corpuscles. In fact, the white-blood corpuscle plays the principal part in most pathological changes, whether of construction or destruction. Proliferation, which five years since was so popular, finds little favor with our author. Virchow proliferated his pus from the nuclei of connective tissue, as though the nuclei were possessed of *creative* power, and could multiply *ad infinitum*, independently of blastema or formative material. Billroth equally ignores formative material, except so far as it is represented by the white corpuscle or *wandering cells*. The following sentence will express his idea as pertinently as any single sentence can:

"If there be no longer any doubt that all young cells that infiltrate the inflamed tissue, and sometimes, as we shall hereafter see, escape from it in the shape of pus, are white-blood corpuscles, or, briefly, *wandering cells*, we have two questions to answer, namely, *Why* do so many cells wander into inflamed tissue, and how came these numbers of wandering cells in the blood; where do they originate?"

It is not our intention, in this notice, to combat or uphold the

views of either Virchow or Billroth, but if suppuration is any process, it is, probably, a uniform process; it is not probable that suppuration is a radically varying process. If it is an "escape" of wandering cells in one instance, it is undoubtedly always the same process. But our author converts a blood clot into pus, also: "This blood clot may sometimes interfere with healing, as when, from its size or other causes, it decomposes or turns to pus." (p. 58.) He also converts tissue into pus: "The tissue surrounding the spot first diseased is gradually infiltrated with cells; and it also goes on to form fluid cellular tissue with the character of pus." (p. 368.) Suppuration is also, according to our author, a *healing* process. He says: "For instance, you unite a wound completely, and may sometimes observe that at some places there is healing by first intention, while at others, after removal of the sutures, the wound gaps, and subsequently heals by suppuration." (p. 92.) It can hardly be questioned that the healing process is here one of *granulation*, and that suppuration is merely incidental.

The process of separation of dead from living sutesis is thus described:

"A cell infiltration and formation of vessels, leading to the development of granulations, start from the borders of the new tissue; granulations form on the border of the healthy tissue, and their surface breaks down into pus. With this change to the fluid state as it were the solution and melting of the tissue, of course the cohesion of the parts must cease, and the dead shreds, which previously were in continuity with the living tissue by their filamentary connection, must now fall."

We confess we can hardly conceive of the *solution* and *melting* of tissue. Living tissue does not thus *melt*, and whoever has tested the strength and tenacity of the tissue of a slough, must be convinced that it has successfully withstood *melting* influences. The process of amputating dead tissue, which nature institutes, is purely a vital one; to wit, *ulceration* or *destructive absorption of tissue*. It takes place in the living territory just adjoining the border of the dead. Granulation and suppuration are incidental. Granulation, *i. e.*, the building up of new tissue, certainly cannot effect the desired solution of continuity. And as organized tissue cannot be changed to pus, suppuration will be equally inefficacious. But tissue may be absorbed, and thus a solution of continuity

effected. Such an absorption of *living* tissue just upon the borders of the dead territory effects the solution of continuity, by which a slough is cast off.

In *ulceration*, our author says:

"Two opposite processes are combined—new-formation and destruction; the latter results from liquefaction of the tissues, *i. e.*, through suppuration, or molecular disintegration, or both together." (p. 394.)

As *tissue* is not convertible into pus, suppuration cannot remove it; and molecular disintegration is *not* ulceration; it is merely minute mortification; in proof of which we quote our author, who says, in the same paragraph from which the last quotation is made, "Molecular disintegration and gangrene are but quantitative varieties of the same process, viz., the death of certain portions of tissue." Now the disconnection of these minute portions of dead tissue must be effected, and the process by which they are detached is the *real ulceration*. Examples of uncomplicated *ulceration*, *i. e.*, *destructive absorption of tissue*, are not wanting. Whoever has had opportunity for examination of diseased joints, must recall instances when a joint has been laid open which contained neither pus nor debris of any kind, but the cartilages of which were extensively *ulcerated*, *i. e.*, the cartilage tissue had disappeared in irregular patches; in other words, it had been the seat of *destructive absorption of tissue*.

In reference to the healing of nerves, Dr. Billroth says:

"In large superficial cicatrices, new nerves develop; when you have excised portions of skin and have brought together and united parts lying at a distance, new nerves grow through the cicatrix, and perfect power of conduction comes after a time, as may be often observed in plastic operations. These facts are very remarkable, and physiologically are still entirely inexplicable. Just think how wonderful that these nerve-filaments, sensory and motor, should find each other in the new adhesion, and that even, as we must suppose, the stumps of the primitive fibres should unite as they had been united, so that correct conduction and localization might result as they actually do!"

In the example cited there is only one kind of nerve function, viz., that of sensation; but in examples of reunion of divided

compound nerve-trunks, which in inferior animals and, perhaps, in rare instances, in man, are attended by a complete restoration of lost power, no such accurate adjustment of the divided ends is probably necessary. It is not probable that there is more than one kind of nerve current or influence; and no histological difference has been discovered in nerve filaments, whether they minister to motion, sensation, or special sense. Prof. Allen taught in his lectures, twenty years since, and at a later date in a series of papers published in the *Medical Independent*, that the effect of the nervous current varied with the mechanism at the end of the nerve. If a nerve terminated in a muscle, motion was the result; if in the peculiar mechanism of a gland, secretion. If a nerve originated in the external skin, its current conveyed to the sensorium common sensation; if it started from an organ of special sense, special sensation. There has never been any proof of an *intrinsic* variety of nervous currents, and histology has not detected a variety of conducting nervous filaments.

Dr. Billroth gives a series of diagrams illustrating the succeeding phases in an organizing blood clot, with reference to which he says:

"It appears that in the clotted blood there is a cellular infiltration, (wandering cells) which here leads to development of connective tissue; in short, that the thrombus becomes organized. The thrombus is not a permanent tissue, but gradually disappears again, or, at least, is reduced to a minimum, a fate which it shares with many new formations resulting from inflammation."

Such an organization of coagulated blood is by no means improbable, and the observations of Dr. Billroth will tend to clear up this mooted point.

In the classification of tumors, the grouping is determined entirely by histology. Practically, we consider this arrangement of adventitious growths not only the least satisfactory, but really the most perplexing one that has yet been adopted. The natural history and clinical peculiarities of surgical diseases afford salient and recognizable features, which not only stamp varieties, but are also associated with prognosis and treatment. Histology is an element to be studied as a constituent of their pathology, but until histology becomes an end, and not a means, it will never

serve a useful purpose as a basis of classification. Speaking of the course and progress of *sarcomata*, Dr. Billroth says:

"You see that the greatest benignity and greatest malignity may be united in this one group of neoplasia; indeed, I can assure you that two sarcomata of the most similar histological qualities (usually, however, with different consistence) may differ entirely in their course. From this circumstance the greatest objections have been made to pathological histology; it must be acknowledged that the histological structure of a tumor by no means corresponds to its clinical course; but for this reason to cast a slur on anatomy [histological anatomy, of course, he means] would be just as strange as to blame it because we cannot certainly distinguish between the microscopic preparations of a salivary, lachrymal, or mucous gland, although they play very different parts in the organism."

This would be very pertinent if anatomists made histology the basis of their description of the organs named. But histology is but a secondary matter to the descriptive anatomist. Classification serves the purpose of facilitating the description and study of tumors; to base classification on their histology, presents the subject to the student in as perplexing a form as would be the study of descriptive anatomy classified according to histological elements.

Billroth's Surgical Pathology will serve *us* a good purpose by using it as a reference in connection with Paget's; but we trust and believe that it will not soon supplant the latter work.

M. G.

Elements of Medical Chemistry. By B. Howard Rand, M.D., Professor of Chemistry in Jefferson Medical College. Second Edition, revised, with additions. Philadelphia: J. B. Lippincott & Co., 1871; pp. 420.

In this edition the text is thoroughly revised, an index added, as also a chapter on the clinical examination of the urine. We are pleased to see that the author has abstained from marring the general excellence of his convenient manual, by substitution of the proposed new nomenclature. He adheres to the nomenclature adopted in the U. S. Pharmacopœia. The constantly changing theories and hypotheses of dabblers in chemistry ought not to be allowed to upset a well established system, without better reasons than have yet been offered.

Regimen Sanitatis Salernitanum. Code of Health of the School of Salernum. Translated into English verse, with an Introduction, Notes and Appendix. By JOHN ORDRONAUX, LL.D., M.D., Professor of Medical Jurisprudence in the Law School of Columbia College, N. Y., etc., etc. Philadelphia: J. B. Lippincott & Co., 1871; pp. 167.

The original and translation are given on opposite pages, and it is unnecessary to say the work is well done. The author has laid the profession under obligations, by rendering this rare and interesting "code" accessible.

A limited edition (210 copies) was originally printed on extra large superfine tinted paper, for subscribers only. A few copies of that edition are still on hand, and can be obtained on application to the Publishers, at $5.00 a copy. We shall "scissor" some specimens when space permits.

The Journal of the Gynæcological Society of Boston: A monthly Journal, devoted to the advancement of the knowledge of the Diseases of Women. Edited by WINSLOW LEWIS, M.D., HORATIO R. STORER, M.D., GEORGE R. BIXBY, M.D. Vol. III, July to January, 1870. Boston: James Campbell, Publisher, 18 Tremont St., Museum Building; pp. 400.

We are gratified by a receipt of this volume elegantly bound in green and gold, for which the editors will please accept sincere thanks. "The Journal of the Gynæcological Society of Boston" is evidently thoroughly established, and has achieved the confidence of co-workers in the specialty to which it is devoted. In a literary way it wears the unmistakable marks of Bostonian "culture." Typographically, etc., it is unexceptionable, and even admirable. It is polemical to a degree—but that is an inherited peculiarity of its locality. Prof. Storer, who furnishes the principal motive power, is trenchant in attack, and potent in defence. He believes most fervently what he writes, and if we do not agree with him, in very many of his teachings, possibly the fault is our own.

The Society adopting as their motto, *Propter uterum est mulier*, religiously and logically carry out the implied dictum.

Those who desire to gain belief in that proposition, and acquaint themselves with all the modern methods of treating *the womb*, will find them expounded fully and forcibly in "The Journal of the Gynæcological Society of Boston," furnished to all advance paying subscribers at $5.00 per annum.

The Causation, Course and Treatment of Reflex Insanity in Women. By HORATIO ROBINSON STORER, M.D., LL.B., of Boston, Surgeon to St. Elizabeth's and St. Francis's Hospital for Women, etc., etc. *Sublata causa, tollitur effectus.* Boston: Lee & Shepard, Publishers. New York: Lee, Shepard & Dillingham, 1871; pp. 236.

This is a republication, in book form, of a paper which was communicated to the American Medical Association, at its session in Boston, in 1865, and was printed in its transactions for that year. It is republished at the present time, that it may appear simultaneously with a translation of a paper upon the relations of the female sexual organs, by Prof. Louis Mayer, of Berlin, which with notes by Prof. Storer, was commenced in the *Journal of the Gynæcological Society of Boston*, May, 1870. This essay, Dr. Storer remarks, "approaching the subject from a somewhat different standpoint, and in entire ignorance that he had been anticipated in the investigation by several years—affords unanswerable proof of the correctness of every point made in the following pages."

Modern Therapeutics: A Compendium of Recent Formulæ and Specific Therapeutical Directions. By GEO. H. NAPHEYS, A.M., M.D., one of the Editors of the Half Yearly Compendium of Medical Science, etc., etc. Second edition, revised and improved. Philadelphia: S. W. Butler, M.D., 115 South Seventh St., 1871; pp. 412.

The first edition of this work was noticed, at its appearance, in the *Journal.* It has been out of print for some months, all the issue having been sold in eight months. The author has performed the duty attempted in a very satisfactory manner, and has collated a mass of material not readily accessible to ordinary readers or busy practitioners. The facilities afforded by such

books in every day practice, weighs largely in their favor against their admitted tendency to foster a formularized routine practice.

A Hand Book of Legendary and Mythological Art. By CLARA ERSKINE CLEMENT, Author of "A Simple Story of the Orient," with Descriptive Illustrations. New York: Published by Hurd & Houghton, Cambridge Riverside Press, 1871; pp. 497.

A capital book for the foreign traveler, or the home student. It brings together in compact shape all the principal Christian legends and Pagan myths, with concise expositions of their illustrations in the art galleries and museums of Europe. Numerous wood-cuts are given, and the subjects being discussed alphabetically, reference to any desired topic is made easy. It is just what is needed as a companion to the usual handbooks of European travel.

American Association for the Cure of Inebriates. Proceedings of the first meeting, held at New York, Nov. 29th and 30th, 1870. Philadelphia, 1871.

The perusal of this little pamphlet cannot fail to afford to every philanthropist the most sincere satisfaction, in the evidence, presented therein, of the attention which the subject of intemperance is just now attracting in the scientific world. Nor is it less satisfactory to perceive the tendency toward organization, in the efforts to eradicate this terrible scourge of humanity, or, at least, to counteract its influence.

As in the individual, considered in his physical relations, so in society there appears to be a principle of compensation, by means of which reactions from extremes are effected, and social adjustments elaborated out of the very elements which constituted the sources of disturbance. An evil, at first trivial, fails to attract attention, till, increasing in magnitude, it begins to disturb the essential equilibrium of society, and, in so doing, awakens the dormant instinct of self-preservation, and thereby effects its own suppression.

The efforts now made to effect the suppression of intemperance, seem to suggest the arrival of such an epoch in the progress of humanity, and while we by no means anticipate the speedy accomplishment of so desirable an end, nor indeed its accomplishment at all, by the means now in operation, we trust that this incipient reformation may itself undergo such continuous reformations as shall ultimately give it the form of truth and efficiency.

Believing most firmly in the maxim "*ne sutor ultra crepidam*," we feel, that, as medical observers, we are excluded from the consideration of the subject, in its moral, social and religious bearings, and that, while we have a most fruitful field of research in the elucidation of the terrible effects of intemperance upon the human organism, and a most useful, though gigantic labor in devising means for their prevention or removal, the suppression of the evil itself lies beyond our province, and properly belongs to religion, by which only it can be comprehended in all its phases, and by whose influence alone it can be successfully combatted and thoroughly eradicated.

Considered then from a medical standpoint, as the only point of observation appropriate for occupation by this JOURNAL—the present phase of human society, at least in this country, presents many features peculiar to this epoch, and distinctly traceable to the influence of the various forms of intemperance; an influence which has undoubtedly induced in the human organism, considered as an individual, and in society as an aggregation of such individuals, modifications which, in their relations to the present and next succeeding generation, may be considered as permanent.

Much has been written about changes of type in disease, necessitating appropriate changes in its treatment; it is most reasonable to conclude that morbid influences, so far as they are specific and independent of causes external to themselves, have undergone no change at any time, but manifest varying symptoms through the medium of organizations which have sustained greater or less modifications through the operation of agencies among which intemperance must hold a most prominent place. As an illustration, the effects of intemperance, in inducing modifications of innervation, are prominently and painfully apparent to all who have devoted special attention to the pathology of this function; and in view of the constantly recurring instances of hereditary

transmission of morbid susceptibility to alcoholism, their permanency (as above qualified) must unfortunately be admitted. Moreover, even where the direct relation of parental intemperance is not, as in the illustration just cited, so clear and definite, the multitudes of instances of insanity, of imbecility, and other manifestations of perverted innervation in the offspring of intemperate parents, indicate, if they do not demonstrate, the efficient agency of this cause in their production.

A very large share of the responsibility for the increased and increasing extent of intemperance is attributed to the medical profession, and while we, to a limited extent, assent to the justice of the opinion, we do not admit the reasons assigned therefor. While it is doubtless true that some, perhaps many, have commenced a career of intemperance by doses of alcohol prescribed by a physician, this incident has been, in the majority of cases, a mere pretext for the indulgence of an appetite already craving gratification, and certain to seek it otherwise had this means been wanting.

We think the responsibility of the medical profession lies rather in their misapprehension of the true physiological and therapeutic relations of alcohol; let these be clearly defined, as they certainly are not now, and while we may not perhaps hope, thereby, to reform confirmed inebriates, (for seclusion is not reformation), we might, by the formation of correct impressions upon minds yet untainted by the curse, anticipate and thus prevent their destruction.

But, craving pardon of our readers for this long digression, we return to "the address of the President" embodying four propositions, to which we venture to suggest only the following objections: We think the admission, in the reply to the second proposition, viz., that "in small doses it (alcohol) acts as a mild stimulant and tonic," is a fallacy, which has always constituted one of the strongest of the tippler's arguments, in defense of his practices, and which will continue to be thus abused until a correct appreciation of the physiological relations of alcohol shall demonstrate its fallacious character.

This theory that alcohol is a stimulant cannot be sustained upon correct physiological principles, and although it has received the endorsement of time, it is not less false than many other pseudo-

scientific opinions, which have passed current, under the sanction of the same authority, until overthrown by more logical conclusions from broader premises.

That, under the influence of moderate doses of alcohol, the consciousness of exhaustion of the normal proportions of vital force in any organ or system of organs, is diminished or suspended, is undoubtedly true, as demonstrated by the experience of the whole human race; and yet the process, by which sensibility, whether mental or physical, is lessened, cannot properly be termed stimulation.

Nor is this theory less mischievous than fallacious. The human intelligence associates with the expression stimulation, the idea of increased power, and becoming conscious of loss of power in any function, naturally seeks some means for its restoration, and reasonably looks to those agents classified as stimulants for the supply of such means.

There are but two agents out of which force can be elaborated in the organism, viz., food, and sleep (*i. e.*, rest). Alcohol is not food, hence in this relation of the laws of force, it has little value. Impress the mind of man with the conviction, that alcohol can never in any sense increase power, but can only by lowering the energy (force in action) of the sensory function, the true indicator of disturbance of force, diminish sensibility to the loss of power already sustained, and thus add to the pre-existing depression—accomplish this, and a new and true principle will be established upon which to base a broader system of reform.

To the fourth proposition, setting forth that "the object of this meeting is to inquire into the best mode of treating inebriety," we object, that the second subdivision implicitly defines the investigation, and virtually terminates further inquiry.

Appreciating, at their highest value, the good intentions of the Association, whose organization is herein announced, it is with much regret that we see the reform movement taking its origin in principles which being narrow, partial, and fallacious, can only serve as foundations for delusive theories, whose practical application must result in disappointment.

The importance of the work to which the Association proposes to devote itself, the prominent position which it already occupies in the public view, and the eminence of some, at least, of its mem-

bers, would, we think, justify a careful revision of its "Declaration of Principles;" for we cannot believe that to be a "true method for the recovery of inebriates," which is based upon the assumption that "intemperance is a disease"—an assumption which no pathologist can prove, and every lexicographer contradicts.

Further, that, "its primary cause is a constitutional susceptibility to the alcoholic impression" we doubt, for we could designate, by name, individuals possessed of the most intense susceptibility to the influence of alcohol, who have always been models of temperance, and to whom this very susceptibility has proven a protection and a safe-guard against this "disease," rather than, as here asserted, "its primary cause."

To those uninitiated in the mysteries of the law, legal fictions have ever been a source of "wonder and doubt," but comprehensive as their scope may be, we trust that it will never be enlarged by the assertion of the principle embodied in the eighth proposition, viz., "That the law should recognize intemperance as a disease." The law is certainly in this instance wiser than the philanthropists, in designating intemperance as a vice, whatever may be the nature of its causes or results.

The writer of a "Brief paper on the pathological influences of alcohol, and the nature of inebriation," might have remembered the Horatian maxim, "*brevis esse laboro, obscurus fio,*" with the advantage of clearing some of its obscurities; for after the fifteenth reading of the first paragraph of the fifteenth page, we are still in doubt, whether he endorses "fermented and distilled drinks" as "tonic, nutritive and life sustaining" when "properly used," or denounces the rest of mankind for doing so—more especially when, upon the next page, he refers to the "direct exhilarating effect of alcohol on the nervous system."

It would also have been interesting, had he explained on the twenty-second page, how alcohol "modifies the play of vital affinity in such a manner as to retard atomic and molecular changes," etc.

Another essayist places inebriates in the class described by Maudsley, as "weighted with a destiny, against which they have neither the will nor the power to contend"—with "primarily defective condition of body and mind, and an impaired will"—

who "know, but are impotent to perform," etc. All of which conditions we are led to believe are to be removed by temporary seclusion in an asylum. *Credat Judæus Apella, non ego.*

The Reverend author of the essay on the "Relation of the church to inebriates," states some plain truths, when he asserts that "a large proportion of our inebriates first began to drink, because their religious training had been overlooked, and there was no fear of God before their eyes from their youth up"—that "the church is letting go its hold upon the horny-handed sons and daughters of toil," having "no place provided where the victims of sin and shame, the ragged and battered and torn, can stand or bow down to worship God," and the "utter failure of the church to carry out the principles of pure religion and undefiled"—"to visit the fatherless and the widows in their affliction." In all of which we most heartily agree, more especially as he restricts his meaning to his own church, of which, speaking *ex cathedra*, he speaks only the truth.

Finally, in expressing our warmest sympathy with the Association in its legitimate career, we will venture to express the hope that it will temper zeal with discretion, and in its efforts for the reform of inebriates, will not exclude from the folds of its mantle of charity, those who are so unfortunate as to be sober and temperate, and above all things let it withhold its reforming hands from the law, and refrain from swelling the mass of special legislation now encumbering every statute-book—destined to prove unfailing sources of confusion and corruption. W. H.

PAMPHLETS RECEIVED.

The Ophthalmoscope in the Treatment of Epilepsy. By Reuben A. Vance, M.D., Attending Physician for Diseases of the Nervous System at the Out-door Department of Bellevue Hospital, etc., etc. New York: D. Appleton & Co., 1871.

Vick's Illustrated Catalogue and Floral Guide. 1871. James Vick, Rochester, N. Y.; pp. 96. Profusely illustrated.

Annual Report of the Board of Health to the General Assembly of Louisiana. Dec. 31st, 1870; session 1871. New Orleans: John W. Madden, printer, 73 Camp street; pp. 83.

On Dactylitis Syphilitica, with Observations on Syphilitic Lesions of the Joints. By R. W. Taylor, M.D., Surgeon to the New York Dispensary, Department of Venereal and Skin Diseases. New York: F. W. Christern, publisher, 1871; pp. 30.

Report on Otology. By Samuel J. Jones, A.M., M.D., Lecturer on Ophthalmology and Otology, etc., etc. Read before the Twentieth Anniversary Meeting of the Illinois State Med. Soc.; pp. 14.

Woman as a Physician. By J. P. Chesney, M.D., New Market, Missouri. From the author; pp. 15.

Health and Home. A Monthly Magazine Devoted to Health and the Home Circle. W. R. DePuy & Brother, publishers, 805 Broadway, New York; $1.50 per annum; Vol. 1, No. 1; pp. 32.

The Health and Wealth of the City of Wheeling; also General Remarks on the Natural Resources of West Virginia. By James E. Reeves, M.D., City Health Officer, and Author of a Practical Treatise on Enteric or Typhoid Fever. Second edition, enlarged and illustrated; price 60c.; pp. 158.

Archives of Science and Transactions of the Orleans Co. Soc. of Natural Science. Jan. 1871. Published quarterly by J. M. Crurier, M.D., Newport, Orleans Co., Vermont.

The Georgia Medical Companion. A Monthly Adviser, devoted to the Science of Medicine and Surgery. Edited by T. S. Powell, M.D., and W. T. Goldsmith, M.D. *Quicquid Præcipies Esto Brevis.* Atlanta, Georgia: J. J. Toon, publisher; $2 a year.

Editorial.

The Uses of a Devil.

It has always been a puzzling question to persons of a speculative, theological turn of mind, why an All-wise and Benevolent Supreme Being should have permitted the existence of evil in itself, or of the great spirit of evil—the Devil, who is about universally believed to be its prime instigator. It would be so easy to be good, if there were no Devil to tempt otherwise!

But profounder reflection convinces that, for the right and perfect development of human nature, the evil principle is indispensable. Negative goodness has no virtue in it respectable above the positively bad.

Milton, in the *Areopagitica*, puts it thus: "I can not praise a fugitive and cloistered virtue unexercised and unbreathed, that never sallies out and sees her adversary but slinks out of the race, where that immortal virtue is to be run for not without dust and heat. * * * That virtue which is but a youngling in the contemplation of evil, and knows not the utmost that vice promises to her followers, and rejects it, is but a blank virtue, not a pure; her whiteness is but an excremental whiteness."

Hence, in the grand scheme of Providence, a Devil has an essential part, and has his uses. Adam and Eve before "the fall" must have been little above Huxley's Protoplasm in deserving. The Devil brought the fall, that brought both toil—"Brain-sweat and Brow-sweat"—and that mental and moral development which lifts man to his real place, "a little lower than the angels," but a good way above the Devil. "There is a soul of goodness in things evil." "Partial ill is universal good." There is an element of truth even in a lie, for it suggests its opposite; the lighthouse shows what to avoid, as the old time "Pillar of Fire" showed the path to be followed.

Which train of reflection leads us directly to medicine, formerly a part of theology practically. Indeed, even now, when divorced, (like the severed halves, male and female, of ancient philosophy,

that went wandering up and down the earth seeking their mates, *sometimes* finding the right ones, but, alas, too often the wrong ones,) medicine and theology have striking affinities—Doctors are polemical, and priests dabble in physic. Medicine, like theology, has its evil principle, or, rather, its "Legion." Without these, it is questionable whether its highest development or perfection could be secured. Bacon called them "Idols"—effigies, images, representations, emblems, of evil spirits, "hot from Tartarus." Let us call them the *Legion* not yet wholly cast out from the collective medicine-man. Some of them are:

Bald Empiricism, which believes in the *post hoc, ergo propter hoc*, and catalogues its remedies and its cures. *Figurative* truths, established not by the Tables of the *Law*, but by the multiplication table.

Sheer Dogmatism, which assumes that the truths of life, health, disease and remedy can be cabinned, cribbed and confined in some wretched catchwords like Hahnemann's sibilant syllables.

False Philosophy, that fastens upon half a dozen palpable facts (misinterpreted), a hundred more assumed (but baseless), and then babbles of simplicity and natural law, as if the grand secrets of nature had already been distilled from its pitiful alembics, or dug out by its dull scalpels. The experimental chemists and physiologists give us enough of this, not to speak of the microscopists and metaphysicians. The hewers of wood and drawers of water for the science of medicine, have each of them their "ready method" with the universe.

Rank Absurdity, that receives *omne ignotum pro magnifico*, that revels in marvelous cures and magical appliances; puts buckeyes in the breeches pockets to cure piles; makes "passes" for neuralgia; titillates megrims, hyp. and hysteria with pellets and potencies; or rises to the level of the sublime by grand "perturbations," with "heroic" doses of calomel, opium, veratrum, *et id omne genus;* or goes to the depth of bathos with wet sheets and ice water, or blood-letting and hot water, with Death himself checking "retrograde metamorphosis" and facilitating "elimination" by his co-operative fingers.

A few specimens only of the Legion, yet a catalogue too grim to laugh at, too ridiculous to grow lugubrious over.

We confess to the firmest faith and strongest confidence in medicine, both as a science and an art, nevertheless the most painful conviction is forced upon us, that the greatest obstacle to its progress is found, not so much in the operations and attacks of the *outside* medical sectaries, as in the constant neglect of so large a proportion *within* the profession, of the primary and fundamental teachings which they claim to accept.

The best of us are, too often, the dupes of philosophical inconsistency. From Huxley, with his splendid vaporings, down to the humblest correspondent of the medical press, there is all the time a manifest anxiety to escape, in the discussion of medical topics, the trammels of cool scientific method, and to substitute the scintillations of genius and imagination for the solid deductions of close observation and logical thought. The medical sectaries and the specialists, each with their little bundle of truths and vast piles of fiction, illustrate the uses of the Devil, and there is no advantage in fretting or fuming over their absurdities. Some show what nature can do unassisted, and others how much the human system can endure and yet escape with life.

Travelers in the tropics learn from the monkeys what unknown fruits they may eat with impunity, and the cautious stranger watches the bibulous customers of an Indiana bar, before he ventures upon the "sudden-death" or "forty-rod" dispensed from its decanters.

Each new method, and new medicine, may be judiciously left to the wholesale use of its enthusiastic advocates, whilst thoughtful physicians from its "morbid anatomy" may gather clearer ideas. Let the believers in specifics indulge in their most dangerous experimentation, they will lessen the necessity for Malthusian methods of keeping down the excess of population.

The search for the Philosopher's Stone and the Elixir of Life, brought to light abundance of useful truth.

The rise, progress, culmination, decline and fall of individual methods and "systems" may entitle medicine to be called a "History of Variations," as Sir William Hamilton objected, but even in its variations it has "a philosophy teaching by examples," whereby profit will accrue to the judicious thinker.

In theology, the day of marvels and miracles, nay even of

"Special Providences," has confessedly passed—although the spirit of evil is still unchained.

In medicine, there is analogous change, but the millenium has not yet dawned—its devil of False Philosophy is still loose.

An Organ-ic Error—

That this *Journal* is the "organ" of Rush Med. College, or of any other college, society, clique or individual. We ask our correspondent on another page, to take notice. The *Journal* is the "organ" of the medical profession as a whole. All opinions can be freely expressed on its pages, provided those who entertain them do so intelligently, and cheerfully submit them to the wholesome criticism which Medicine in its present high stage of enlightenment everywhere demands. We repeat, what we have elsewhere written, we insist upon *good faith.* When we believe this to be present, we shall admit a well written article though we differ, personally, *toto cælo* from the conclusions of its author.

The present writer is, perhaps from long experience, somewhat unusually pachydermatous, nevertheless he never could understand why some people are so particularly sensitive when their pet notions are attacked. They ought rather to rejoice at the opportunity afforded to show their tenets sound, their positions invincible, or else to discard the former and scramble down from the latter. Beware of thin skins, Dear Brethren.

It is a pitiful pride which plumes itself on holding precisely the same views now as twenty years, or one year, or even a day ago. Are we to learn nothing, to achieve nothing, to throw away nothing, or forget nothing? Better be put away in salt and carbolic acid pickle at once. The Icthyosaurus is a good type of stability, but it is time enough to fossilize when dead.

Carrion Flies.

The severe *critique* which appeared in the *Journal* upon a recently published obscene book, (the naked villainy of which was even more apparent from the odd ends stolen from holy writ,

that, here and there, bedizened it,) has awakened the intense wrath of the noisome insects who sat down to batten on its reeking rottenness. They fill their little circles of foul air with epithets and threatenings. Meanwhile every respectable Medical Journal in the country, which has noticed it at all, has denounced it in terms to the full as energetic as those used by "*Volta Reeke*" or the Editor himself. That old and respectable paper, the *Boston Medical and Surgical Journal*, refused even to mention the name of the book in its pages, but after quoting from our correspondent and endorsing his views completely, says: "Our brother editor, in his remarks, truly stigmatizes the book as 'the culminating atrocity of the press.' Having made these remarks, *our* copy of the book goes to the flames." And yet prurient parsons in this city, to our knowledge, have put copies of the book into the hands of pure minded ladies, and howl, like baffled wolves, because we have exposed its disgusting enormities. We denounce the clergyman who does this from this time forth as a moral leper, and advise the lady to whom it is recommended, to imitate the editor of the *Boston Journal*, and consign the book to the flames, and the presentor to—Coventry, or a warmer climate.

Bliss & Sharp — Removal.

The well-known firm, Bliss & Sharp, recently of 144 Lake St., have removed to the spacious and elegant store, 105 State St., in the magnificent block adjoining "Booksellers' Row," wherein our Publishers find lodgement for their immense stock of literary and stationery wares. Calling upon them a few days since we found ourselves surrounded by everything needed or desired by the most devoted admirer of drugs, and every convenience for dispensing, sale or show of the Materia Medica, together with all those æsthetic appurtenances which our apothecaries know well how to dispose so as to attract the eye and gratify the sense. Those in the habit of visiting their old but popular store, will be pleased to learn that the department for surgical instruments, and apparatus of all sorts, has been assigned a distinct room on the second floor, reached by a broad and easy stairway from the central portion of the main apartment. In this department can

be found about everything, in the way of mechanical appliances, the Physician, Surgeon, Obstetrician or Specialist of any variety may need.

Those who may not wish to purchase will nevertheless be gainers by looking over the immense variety here presented. They will see, in a *coup d'œil*, the wonderful progress which has been made, within a comparatively recent period, in the creation of material aids to the profession. We advise our readers to look over this magazine, and thus secure many valuable hints for the future.

The same enterprising firm have also removed their branch store, 125, 22d St., to the beautiful building on the corner of the same street and Wabash Avenue. The branch store, although by no means as large as the palatial "down town" place, is, nevertheless, a *bijou* in its way, and did space permit would have a more extended notice. It is unnecessary for us to say that with Messrs. Bliss & Sharp purity and perfection of medicines is a cardinal and ever present virtue. As a class, Chicago may well feel pride in many of its apothecaries, and point to this house as especially distinguished.

Thanks to Contemporaries

Are due and cheerfully tendered for copies of missing back numbers of their respective journals. We shall always be happy to reciprocate to any extent in our power. We prize the Medical Journals of the time very highly, and not only file them, but have them bound, and their important articles minuted in a general Library Index.

Back Numbers Wanted.

To complete files, Twenty-five cents each will be paid for the following Nos. of the JOURNAL for 1869: June, 1, No. 11; July 15, No. 14; August 1, No. 15; August 15, No. 16.

To the Editor of the Chicago Medical Journal:

Cook County Hospital was lately the scene of a pleasant gathering, the occasion being the annual reunion of Interns. Four years have passed since the first certificate of the Medical Board was granted. Dr. N. T. Quales, the present Superintendent of the United States Marine Hospital in Chicago, was the recipient. Others have been added to the list of foster children at the rate of three each year. The young men so distinguished have done credit to their alma mater. Some of them have already achieved a fair position in the practice they have chosen. They all cherish the memories of an arduous service, and love with apostolic fervor their companionships therein. They will strive to ennoble the career of the Hospital.

It was for the purpose of perpetuating friendship and self-improvement that the Association was formed one year ago, Dr. Quales acting as the first President, and Dr. T. M. Hutchinson, Secretary. The reunion this year was a success, and will be long remembered. A bountiful supper was provided by the Warden, of whose hospitality all had tasted before. Other exercises of a scientific interest followed. At a late hour the assembly dispersed, to meet again in one year.

C. T. Fenn.

March 20, 1871.

Alumni of the Med. Dept. of the University of the City of New York.

The Executive Committee of the Alumni Association of the Medical Department of the University of the City of New York purpose the publication, at the earliest possible date, of a complete catalogue of the graduates from that institution since its foundation. The records of the Faculty having been destroyed in the burning of the college building some years ago, this project is one that should be seconded by every one of the alumni, of whom between two and three thousand are scattered throughout the United States. It is earnestly requested that each of these will, without delay, forward for enrolment his full name and post office address, with his

professional history, including date of graduation, posts of honor and trust held, etc., and also any information which he may possess concerning former class-mates who have since died or retired from practice. Communications should be addressed to the Secretary, Chas. Inslee Pardee, M.D., 72 West 35th street, New York.

American Medical Association,

Office of Permanent Secretary, Wm. B. Atkinson, M.D., 1400 Pine street, S. W. cor. Broad, Philadelphia.

The twenty-second annual session will be held in San Francisco, Cal., May 2, 1871, at 11 A. M.

The following Committees are expected to report:—

On Cultivation of the Cinchona Tree—Dr. Lemuel J. Deal, Pennsylvania, Chairman.

On Inebriate Asylums—Dr. C. H. Nichols, D.C., Chairman.

On Institutions for Inebriates—Dr. Joseph Parrish, Pennsylvania, Chairman.

On the Structure of the White Blood Corpuscles—Dr. J. G. Richardson, Pa., Chairman.

On Vaccination—Dr. Henry A. Martin, Mass., Chairman.

On the Comparative Merits of Syme's and Pirogoff's Operations—Dr. Geo. A. Otis, U. S. A., Chairman.

On Lithotrity—Dr. E. M. Moore, New York, Chairman.

On Veterinary Medicine—Dr. Samuel D. Gross, Pa., Chairman.

On Protest of Naval Surgeons, etc.—Dr. W. S. W. Ruschenberger, U. S. N., Chairman.

On National Medical School—Dr. Francis Gurney Smith, Pa., Chairman.

On American Medical Association Journal—Dr. James P. White, New York, Chairman.

On Criminal Abortion—Dr. D. A. O'Donnell, Maryland, Chairman.

On Nomenclature of Diseases—Dr. Francis Gurney Smith, Pa., Chairman.

On National System of Quarantine—Dr. J. C. Tucker, California, Chairman.

On what, if any, Legislative means are expedient and advisable, to prevent the spread of Contagious Diseases—Dr. M. H. Henry, New York, Ch'n.

On Renewal of Prescriptions by Apothecaries without Authority—Dr. R. J. O'Sullivan, New York, Chairman.

On American Medical Necrology—Dr. C. C. Cox, D. C., Chairman.

On Medical Education—Dr. Ely Geddings, South Carolina, Chairman.

On Medical Literature—Dr. P. G. Robinson, Missouri, Chairman.

On Prize Essays—Dr. T. M. Logan, California, Chairman.

On the Climatology and Epidemics of—Maine, Dr. J. C. Weston; New Hampshire, Dr. P. A. Stackpole; Massachusetts, Dr. H. I. Bowditch; Rhode Island, Dr. C. W. Parsons; Connecticut, Dr. J. C. Jackson; New York, Dr. W. F. Thoms; New Jersey, Dr. C. F. J. Lehlbach; Pennsyl-

vania, Dr. D. F. Condie; Maryland, Dr. C. H. Ohr; Georgia, Dr. Juriah Harriss; Missouri, Dr. F. E. Baumgarten; Alabama, Dr. R. F. Michel; Texas, Dr. S. M. Welsh; Illinois, Dr. R. C. Hamil; Indiana, Dr. J. F. Hibberd; District of Columbia, Dr. T. Antisell; Iowa, Dr. J. C. Hughes; Michigan, Dr. G. P. Andrews; Ohio, Dr. T. L. Neal; California, Dr. F. W. Hatch; Tennessee, Dr. B. W. Avent; West Virginia, Dr. E. A. Hildreth; Minnesota, Dr. Chas. N. Hewitt; Virginia, Dr. W. O. Owen; Delaware, Dr. L. B. Bush; Arkansas, Dr. G. W. Lawrence; Mississippi, Dr. J. P. Moore; Louisiana, Dr. S. M. Bemiss; Wisconsin, Dr. J. K. Bartlett; Kentucky, Dr. L. P. Yandell, Sr.; Oregon, Dr. E. R. Fisk; North Carolina, Dr. W. H. McKee.

Secretaries of all medical organizations are requested to forward lists of their delegates, as soon as elected, to the Permanent Secretary.

Any respectable physician who may desire to attend, but cannot do so as a delegate, may be made a *member by invitation*, upon the recommendation of the Committee of Arrangements.

W. B. Atkinson.

American Medical Association.

Arrangements have been completed with the Northwestern and Union Pacific Railroads to carry members of the profession, who desire to attend the annual meeting of the American Medical Association on the 2d day of May, 1871, in San Francisco, from Chicago to Omaha and back for $24, and from Omaha to San Francisco and back for $125, making $149 for the round trip from this place.

Tickets can be purchased at any time after the 15th of April, and will be good for 60 days from date of purchase.

Physicians can take members of their own families with them at the same rates. Tickets from Chicago to Omaha and back can be purchased at the Ticket Office, 125 Lake street, *only*. For Omaha to San Francisco and back, at the office in Omaha. But all applicants for commutation tickets will be required to show certificates that they are to be recognized as actual members of the San Francisco meeting. Consequently, all in the Northwest who intend to go, had better send to me, without delay, their names and address, with the names of such members of their families as they desire to take with them.

N. S. Davis,

Sec. Committee on Railroads, 797 Wabash av., Chicago.